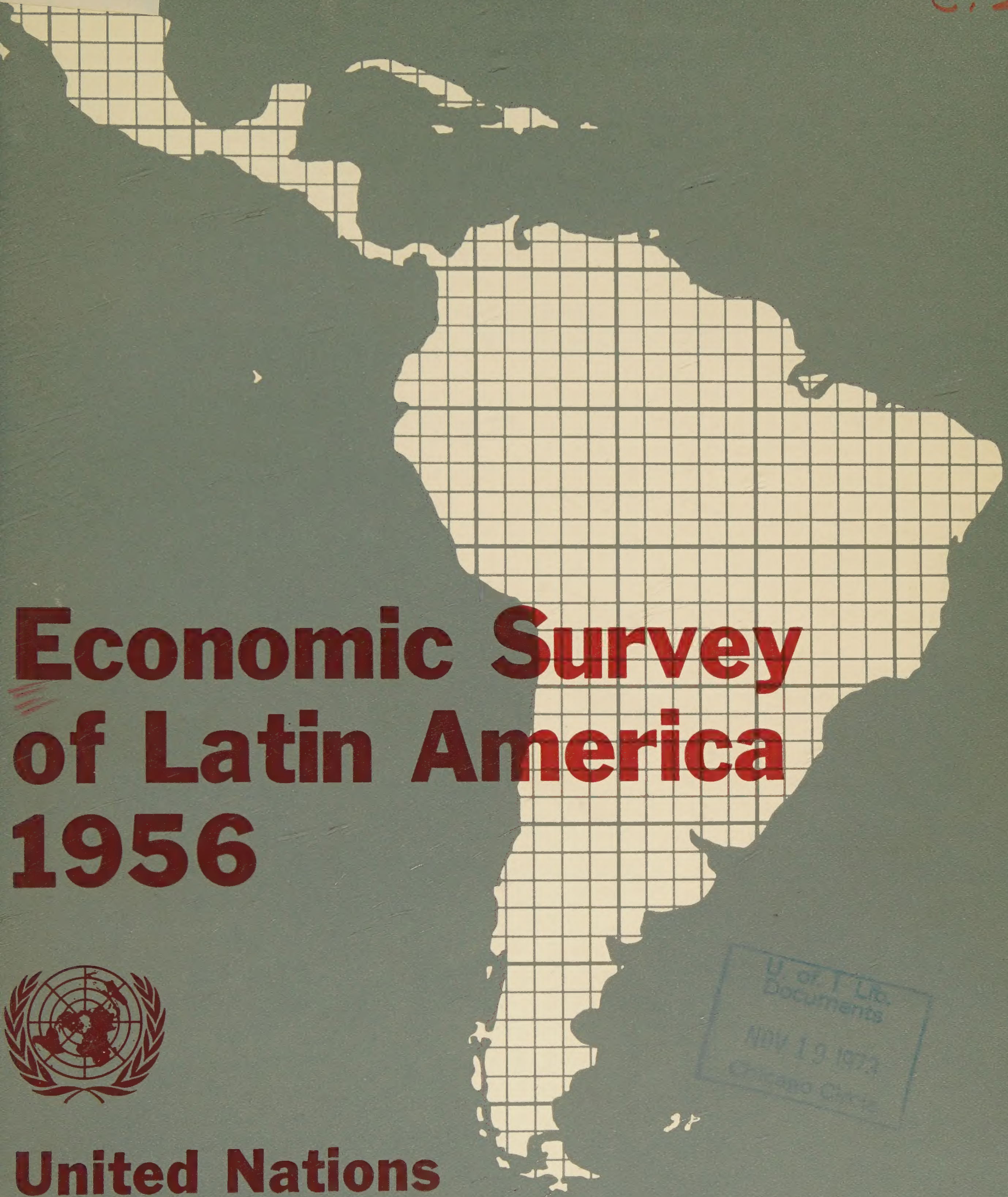
.12/427/Rev.1

ECONOMIC & SOCIAL COUNCIL

E/CN.12
C.2



Economic Survey of Latin America 1956

U. of I. Lib.
Documents
NOV 19 1973
Chicago Circle

United Nations

Digitized by the Internet Archive
in 2024

https://archive.org/details/economic-survey-of-latin-america-and-the-caribbean_1956

ECONOMIC SURVEY
OF
LATIN AMERICA
1956

Prepared by the secretariat
of the Economic Commission for Latin America

UNITED NATIONS
Department of Economic and Social Affairs
New York, 1957

Documents
330.98
U58e
1956

IMPORTANT NOTE

Many of the figures for 1956 must be considered to be purely provisional and subject to corrections which may be of great importance in some cases.

The figures for the gross product and its components, which appear in chapter I of the *Survey*, differ from the estimates given in studies previous to the *Survey* for 1955 and even in the *Survey* for 1955 itself, because new and corrected figures were received from some of the countries concerned.

E/CN.12/427/Rev.1
September 1957

UNITED NATIONS PUBLICATION
Sales No.: 1957. II.G. 1

Price: $ U.S. 2.50; 18/- stg.; Sw.fr. 10.50
(or equivalent in other currencies)

EXPLANATION OF SYMBOLS

The following symbols have been used throughout this *Survey*:

Three dots (. . .) indicate that data are not available or are not separately reported

A dash (—) indicates that the amount is nil or negligible

A minus sign (−) indicates a deficit or decrease

A full stop (.) is used to indicate decimals

A comma (,) is used to distinguish thousands and millions

A slash (/) indicates a crop year or fiscal year, e.g. 1955/56

Use of a hyphen (-) between dates representing years, e.g. 1950-1954, normally signifies an annual average for the calendar years involved, including the beginning and end years. "To" between the years indicates the full period, e.g. 1950 to 1954 means 1950 to 1954, inclusive

References to "tons" indicate metric tons, and to "dollars" United States dollars, unless otherwise stated

The term "billion" signifies a thousand million

Details and percentages in tables do not necessarily add to totals, because of rounding.

808264

TABLE OF CONTENTS

Page

INDEX OF TABLES ix

INDEX OF FIGURES xiii

PART ONE

ECONOMIC TRENDS IN LATIN AMERICA DURING 1956

CHAPTER I. TRENDS OF ECONOMIC GROWTH IN LATIN AMERICA DURING 1956 . . 3

- I. General trends 3
  - 1. Rate of growth 3
  - 2. Evolution of the external sector 4
  - 3. Import structure and economic activity 5
  - 4. Stabilization policy, production and domestic demand 6
  - 5. Investment, domestic saving and foreign capital. 6
  - 6. The product-capital ratio 7
  - 7. The gross product, by sectors 8
- II. Trends in selected countries 8
  - 1. Argentina 8
  - 2. Bolivia 10
  - 3. Brazil 12
    - (*a*) Trends in demand 12
    - (*b*) Production trends. 13
  - 4. Colombia 13
  - 5. Chile 14
  - 6. Mexico 17

CHAPTER II. FOREIGN TRADE: EXPORTS 19

- I. Introduction 19
- II. The primary commodity market in recent years 19
- III. Evolution of the terms of trade 20
- IV. Changes in the markets for exports. 21
- V. Market analysis of staple commodities 22
  - 1. Coffee 22
  - 2. Cacao 23
  - 3. Sugar 23
  - 4. Wheat. 24
  - 5. Cotton. 25
  - 6. Wool 26
  - 7. Copper 26
  - 8. Tin 27
  - 9. Petroleum 28

Annex

THE IMPACT OF THE CRISIS IN THE MIDDLE EAST ON SOUTH AMERICA'S SUPPLIES OF PETROLEUM AND ITS DERIVATIVES. 29

- 1. South America's supplies of petroleum and its derivatives 29
- 2. Volume and source of South American imports of petroleum and its derivatives. 30
- 3. Effects of the crisis in the Middle East on supplies and costs of petroleum and its derivatives 31
- 4. Conclusions 34

Page

CHAPTER III. THE BALANCE OF PAYMENTS 36

I. Trade 36
II. Transport and other services 37
III. Foreign investment 38
IV. The capacity to import, imports of goods and services and the balance-of-payments situation 40
V. Financing of balance-of-payments deficits. The problem of short and medium-term debts in Brazil, Argentina and Colombia 42

CHAPTER IV. COMPARATIVE STUDY OF THE CAPACITY TO IMPORT IN SELECTED LATIN AMERICAN COUNTRIES, 1946-55 45

Introductory note 45
I. The capacity to import over the period 1946-55 45
II. Annual variations in the capacity to import during 1946-55 50

PART TWO

TRENDS OF THE MAIN PRODUCTION SECTORS

CHAPTER I. AGRICULTURE 59

I. General situation 59
II. Situation by countries 61
III. Situation by commodities 64
  1. Coffee 64
  2. Sugar 66
  3. Wheat 67
  4. Maize 69
  5. Rice 70
  6. Cotton 71
  7. Cacao 73

CHAPTER II. INDUSTRY 75

I. Latin American industry in 1956 75
II. Trends by countries 75
III. Trends by sectors 78
  1. Foods and beverages 78
  2. Tobacco manufacture 79
  3. Textiles 79
  4. Tanning 81
  5. Footwear and garments 81
  6. Timber 82
  7. Pulp and paper 83
  8. Chemical products 84
    (*a*) Sodium alkalis 85
    (*b*) Petrochemical industries 85
    (*c*) Artificial and synthetic filaments 86
    (*d*) Plastic resins 86
    (*e*) Pharmaceutical products 86
  9. Rubber products 87
  10. Cement, glass and ceramics 88
  11. Iron and steel 89
  12. Aluminium 91
  13. Iron and other metal transforming industries 91
  14. Building 93

CHAPTER III. MINING 94

I. Post-war development of mining in Latin America 94
  1. Structure of the Latin American mining industry 94
  2. Trends in the post-war period 95

Page
II. Individual commodity groups 97
1. Mineral fuels 97
2. Iron 98
3. Alloying metals (ores and concentrates) 98
4. Copper 99
5. Lead and zinc 100
6. Precious metals 101
7. Miscellaneous metals 102
8. Chemical minerals 103
9. Miscellaneous non-metallic minerals 103

CHAPTER IV. ENERGY 104

I. Introduction 104
II. Petroleum and its derivatives 105
III. Mineral coal 108
IV. Electric energy 108
V. Investment in energy and its financing 110

PART THREE

TWO SPECIAL STUDIES

A. PRELIMINARY STUDY OF THE EFFECTS OF POST-WAR INDUSTRIALIZATION ON IMPORT STRUCTURES AND EXTERNAL VULNERABILITY IN LATIN AMERICA 115

I. Introduction. The effect of industrialization on imports 115
II. Changes in the structure of imports of various groups of countries . . 117
III. Analysis by commodity categories 121
1. Finished goods 121
2. Materials 122
3. Capital goods 124
4. Consumer goods 125
IV. Import flexibility and external vulnerability 126
V. Studies of countries in process of industrialization 127
1. Argentina 127
(*a*) Changes in the structure of imports 127
(*b*) Analysis by commodity categories 129
(i) Finished goods 129
(ii) Materials 129
(iii) Capital goods 130
(iv) Consumer goods 131
(*c*) Flexibility of imports and economic vulnerability 131

2. Chile 132
(*a*) Changes in the structure of imports 132
(*b*) Analysis by commodity categories 133
(i) Finished goods 133
(ii) Materials 134
(iii) Capital goods 135
(iv) Consumer goods 135
(*c*) The flexibility of imports and economic vulnerability 135

3. Venezuela 136
(*a*) Changes in the composition of imports 137
(*b*) Analysis by commodity categories 137
(i) Finished goods 137
(ii) Materials 138
(iii) Capital goods 138
(iv) Consumer goods 138
(*c*) Flexibility of imports and economic vulnerability 139

Page

4. Brazil 139
(a) Changes in the composition of imports 140
(b) Analysis by commodity categories 141
(i) Finished goods 141
(ii) Materials. 141
(iii) Capital goods. 142
(iv) Consumer goods 142
(c) The structure of imports and external vulnerability 142

5. Mexico 143
(a) Changes in the structure of imports 144
(b) Analysis by commodity categories 144
(i) Finished goods 144
(ii) Materials. 145
(iii) Capital goods. 146
(iv) Consumer goods 146
(c) Import flexibility and economic vulnerability 146

6. Peru 147
(a) Changes in the structure of imports 147
(b) Analysis by commodity categories 148
(i) Finished goods 148
(ii) Materials. 149
(iii) Capital goods. 149
(iv) Consumer goods 149
(c) Import flexibility and external vulnerability. 149

VI. Conclusions 150
Statistical annex. 153
Explanatory note on definitions and methods 162
1. Classification of imports. 162
2. Revaluation of imports in terms of dollars at 1950 prices 163
3. Estimates of domestic product, consumption and investment in terms of dollars at 1950 prices 163

B. PRODUCTIVITY OF LABOUR AND LAND IN LATIN AMERICAN AGRICULTURE 164

I. Introduction 164
II. Agricultural labour force and average product per worker in Latin America
1. Changes in the economically active population in 1945-55 166
2. Output per worker in Latin American agriculture 168
(a) Present status and comparison with the non-agricultural sector . 168
(b) Efficiency of agricultural manpower in selected countries. . . . 169
(c) Development in Latin America. 171
(d) Development by selected countries 171
III. Land yields 177
1. Scope of the problem. 177
2. Land yields and their effect on output per worker 178
(a) Land under cereals 180
(b) Land under other crops 181

Index of Tables

PART ONE

Chapter I

Table *Page*

1. Latin America: Annual *per capita* growth rates 3
2. Latin America: Growth in 1950-56 3
3. Latin America: Annual growth rates of *per capita* income in selected countries 4
4. Latin America: External sector 5
5. Latin America: Gross investment. 6
6. Latin America: Structure of investment in fixed capital 7
7. Latin America: Product-capital ratio 7
8. Latin America: Gross product by sectors of economic activity 8
9. Argentina: Product and income, 1956. 9
10. Brazil: Product and income in 1956 13
11. Colombia: Product and income in 1956. 14
12. Chile: Product and income 15
13. Mexico: Product and income in 1956. 17

Chapter II

14. Latin America: Exports of some primary commodities 20
15. World market prices of primary commodities 21
16. Latin America: Unit value indices of exports and imports, and terms of trade 21

Annex

I. Latin America: Supplies of petroleum and its derivatives in selected countries, 1955 29

II. South America: Imports of petroleum and fuel derivatives as percentages of total imports and supplies for selected countries 29

III. South America: Volume and source of imports of petroleum and fuel derivatives in selected countries, 1956 30

IV. South America: Shipments of petroleum and derivatives from the Caribbean area and the Persian Gulf at the end of 1956 and beginning of 1957 32

V. Increase in prices of petroleum and derivatives during the Middle East crisis 33

VI. Increases in selected petroleum freight spot rates during the Middle East crisis 34

VII. Argentina: Break-down of petroleum and fuel oil imports by currencies used for payment 34

Chapter III

17. Latin America: Foreign trade and trade balance 36
18. Latin America: Trade trends in 1955 and 1956 37
19. Latin America: Net balances on the various current account transactions, excluding commodities 38
20. Latin America: Capacity to import, imports of goods and services and balance-of-payments position 41
21. Latin America: Balance-of-payments position and clearing account variations 43
22. Brazil: Annual commitments deriving from medium-term compensatory loans granted to Brazil from 1953 to 1955 44

Chapter IV

23. Latin America: Variations in capacity to import and gross product over the period 1946-55 in selected countries 45
24. Latin America: Capacity to import, imports and balance-of-payments position in selected countries 48
25. Argentina:
    (a) Annual variations in the capacity to import and its different components 51
    (b) Capacity to import, imports and balance-of-payments position . . . 51
26. Brazil:
    (a) Annual variations in the capacity to import and its different components 51
    (b) Capacity to import, imports and balance-of-payments position . . . 51
27. Chile:
    (a) Annual variations in the capacity to import and its different components 52
    (b) Capacity to import, imports and balance-of-payments position . . . 52
28. Mexico:
    (a) Annual variations in the capacity to import and its different components 52
    (b) Capacity to import, imports and balance-of-payments position . . . 52
29. Peru:
    (a) Annual variations in the capacity to import and its different components 53
    (b) Capacity to import, imports and balance-of-payments position . . . 53
30. Venezuela:
    (a) Annual variations in the capacity to import and its different components 53
    (b) Capacity to import, imports and balance-of-payments position . . . 53
31. Latin America: Diversification of exports in selected countries 54

PART TWO

Chapter I

32. Latin America: Volume of agricultural and livestock production 59
33. Latin America: Volume of production of commodities intended mainly for export compared with volume of commodities intended for domestic consumption. 60
34. Latin America: Coffee production, 1949/50 to 1955/56 64
35. Latin America: Sugar production. 66
36. Argentina and Uruguay: Wheat export availabilities. 68
37. Latin America: Wheat production 68
38. Latin America: Maize production. 69
39. Unit yield of maize in selected Latin American countries and in the United States 70
40. Latin America: Rice production 71
41. Latin America: Cotton-fibre production. 72
42. Latin America: Cacao production 73

Chapter II

43. Brazil: Distribution of the value of industrial production. 75
44. Latin America: Structure of industrial output in seven countries 78
45. Latin America: Production of beer, sugar, wheat flour and edible vegetable oils 79
46. Latin America. Cigarette production 79
47. Latin America: Production of the textile industry. 80
48. Latin America: Equipment installed in the textile industry, 1956. 81
49. Latin America: Modernization of cotton looms in six countries, 1949-54 . . 81
50. Latin America: Production of leather footwear 82
51. Latin America: Production and consumption of timber. 82
52. Latin America: Production of pulp, paper and board 84
53. Latin America: Production of sodium alkalis 85
54. Latin America: Production of rayon and acetate 86
55. Latin America: Production of tyres 87
56. Latin America: Production, imports and apparent consumption of cement . 88
57. Latin America: Production of pig iron, steel ingot and rolled products 1955 and 1956. 89

Table Page
58. Steel ingot capacity in Latin America and in other areas 90
59. Latin America: Average annual consumption of metallic aluminium during the period 1953-55 91
60. Latin America: Production and productive capacity of seamless steel tubes 92

Chapter III

61. Average annual rates of growth in production, 1945-55 94
62. Latin America: Production of minerals and metals, by commodity groups, 1945, 1950 and 1955 95
63. Latin America: Production of minerals and metals, by countries, 1945, 1950 and 1955 95
64. Latin America: Value of production by commodity groups, as a percentage of total value of minerals and metals produced, 1945, 1950 and 1955 96
65. Latin America: Average annual growth of gross domestic product, value of minerals and metals produced (at constant prices) and of price indexes of minerals and metals by countries, 1945-1955 97
66. Latin America: Average annual growth of volume of minerals and metals produced, and of price indices of minerals and metals, by commodity groups, 1945-1955 97
67. Latin America: Production of alloying metals, as a percentage of world production and as a percentage of total value of minerals and metals mined in Latin America 99

Chapter IV

68. Latin America: Production and consumption of commercial energy, 1956 . 104
69. Latin America: Fuel imports, 1956 105
70. Latin America: Consumption of liquid fuels and natural gas 105
71. Latin America: Production of crude petroleum, refining and refining capacity 106
72. Latin America: Production of mineral coal 108
73. Latin America: Production of electricity for the public service 109
74. Latin America: Installed capacity of electric power plants 109

PART THREE

75. Percentage changes in annual average real imports and domestic product, 1948-50 to 1954-55 118
76. Finished goods as a percentage of total imports, 1948-50 and 1954-55. . . 119
77. Percentage changes in annual average real imports, investment and domestic product, 1948-50 to 1954-55 119
78. Capital goods as a percentage of total imports, 1948-50 and 1954-55 . . . 119
79. Countries in process of industrialization with imports stationary or falling: Structure of imports, 1948-50 and 1954-55 120
80. Countries in process of industrialization with imports increasing moderately: Structure of imports, 1948-50 and 1954-55 120
81. Countries in process of industrialization with imports increasing rapidly: Structure of imports, 1948-50 and 1954-55 120
82. Unindustrialized countries: Structure of imports, 1948-50 and 1954-55. . . 120
83. Latin America: Structure of imports, 1948-50 and 1954-55 121
84. Latin America: Percentage changes in annual average real imports of finished goods, by commodity class and country group, 1948-50 to 1954-55 121
85. Latin America: Percentage changes in annual average real imports of materials, by commodity class and country group, 1948-50 to 1954-55 123
86. Latin America: Percentage changes in annual average real imports of capital goods by commodity class and country group, 1948-50 to 1954-55 124
87. Latin America: Percentage change in annual average real imports of consumer goods, by commodity class and country group, 1948-50 to 1954-55 125
88. Argentina: Production indices, 1945-55 127
89. Argentina: Structure of imports, 1948-50 and 1954-55 128
90. Argentina: Investment and imports of capital goods, 1948-50 and 1954-55. 128
91. Argentina: Economic aggregates and imports by end-use, 1948-50 and 1954-55 129

Table *Page*
92. Chile: Production indices, 1945-55 132
93. Chile: Economic aggregates and imports, 1948-50 and 1954-55 133
94. Chile: Structure of imports, 1948-50 and 1954-55 133
95. Venezuela: Production indices, 1945-55 136
96. Venezuela: Structure of imports, 1948-50 and 1954-55 137
97. Brazil: Production indices, 1945-55 139
98. Brazil: Economic aggregates and imports, 1948-50 and 1954-55 140
99. Brazil: Structure of imports, 1948-50 and 1954-55 140
100. Mexico: Production indices, 1945-55 143
101. Mexico: Economic aggregates and imports, 1948-50 and 1954-55 144
102. Mexico: Pattern of imports, 1948-50 and 1954-55 145
103. Peru: Production indices, 1945-55 147
104. Peru: Evolution of foreign trade 147
105. Peru: Structure of imports 1948-49 and 1954-55 148
106. Latin America: Total population and economically active population . . . 166
107. Latin America: Agricultural and non-agricultural labour supply, 1950 167
108. Latin America: Growth of the labour force, 1945-55 168
109. Latin America: Labour force by main branches of economic activity and product per worker, 1950 168
110. Output per economically active person employed in agricultural and non-agricultural activities in selected countries 169
111. Product per agricultural worker in selected countries 170
112. Latin America: Gross product per worker by branches of economic activity 170
113. Indices of the output of the agricultural labour force in selected Latin American countries and the United States 171
114. Mexico: Land yields, output per worker and some of their components . . 172
115. Uruguay: Land yields, output per worker and some of their components . 173
116. Brazil: Land yields, output per worker and some of their components . . 173
117. Chile: Land yields, product per worker and some of their components . . 174
118. Argentina: Land yields, product per worker and some of their components 174
119. Argentina: Area sown to cereals and oil-seeds and other crops 175
120. Argentina: Land yields by groups of crops 175
121. United States: Land yields, output per active person and some of their components 176
122. Some factors which affect output per worker and land yields 176
123. Production of crops per unit of land 179
124. Area sown to cereals and other crops; percentage of total tilled area and relative weight of the production of each group 179
125. Average yields of land sown to cereals 180
126. Land under cereals as a percentage of the total area under tillage 181
127. Land under some of the main non-cereal crops as a percentage of total area under tillage 181
128. Productivity per hectare for selected crops 182

Index of figures

Figure *Page*

I. Latin America: Growth in 1950-56 3

II. Latin America: Consumption and investment 4

III. Latin America: Product-capital ratio, exports of goods and services, and gross investment 7

IV. Latin America: Growth of gross product, by sectors 8

V. Price of primary commodities: Coffee—cacao 23

VI. Price of primary commodities: Sugar—wheat 24

VII. Price of primary commodities: Wool—cotton 26

VIII. Price of primary commodities: Copper—tin 27

IX. Total balances and break-down by movements of capital 39

X. Argentina: Capacity to import and its various components, annual values and central trend curves. 1946-1955 46

XI. Brazil: Capacity to import and its various components, annual values and central trend curves. 1946-1955 46

XII. Chile: Capacity to import and its various components, annual values and central trend curves. 1946-1955 46

XIII. Mexico: Capacity to import and its various components, annual values and central trend curves. 1946-1955 46

XIV. Peru: Capacity to import and its various components, annual values and central trend curves. 1946-1955 47

XV. Venezuela: Capacity to import and its various components, annual values and central trend curves. 1946-1955 47

XVI. Copper prices, United States and London metal exchange. 100

Part One

ECONOMIC TRENDS IN LATIN AMERICA DURING 1956

Chapter I

TRENDS OF ECONOMIC GROWTH IN LATIN AMERICA DURING 1956

I. GENERAL TRENDS

1. Rate of growth

The reduction in Latin America's rate of development ing the year 1956 brought to a temporary halt the wth of *per capita* gross income, which in the immetely preceding years had averaged about 3 per cent. 1956, although the absolute level of gross income was her than the 50,000 million dollars (at constant prices) istered for 1950, its growth did no more than keep e with that of the population (see tables 1 and 2 and ire I).

ome aspects of economic development during 1956 played the features that are characteristic of years of ansion, but in the final issue the influence of certain ressive factors prevailed to bring about the pause rred to in the rate of growth of *per capita* gross ome. On the one hand the volume of the region's regate exports constituted a record,[1] so that, despite ight deterioration in the terms of trade, net income from sales abroad rose 3 per cent above the previous year's high level. Consequently, the stimulus to Latin America's internal economy and capacity to import provided by the external sector was more powerful than before. On the

ble 1. Latin America: Annual per capita growth rates

(Percentages)

	1950-54	*1955*	*1956* [a]
s product	1.8	2.3	0.6
s income	2.1	1.1	0.0
ilable goods and services . .	2.5	1.7	−0.4
sumption	2.2	2.2	−0.4
stment	3.9	−0.6	−0.4

urce: ECLA, on the basis of official data.
Provisional.

Figure I
LATIN AMERICA: GROWTH IN 1950-1956
(Thousand of millions of dollars at 1950 prices)
Natural scale

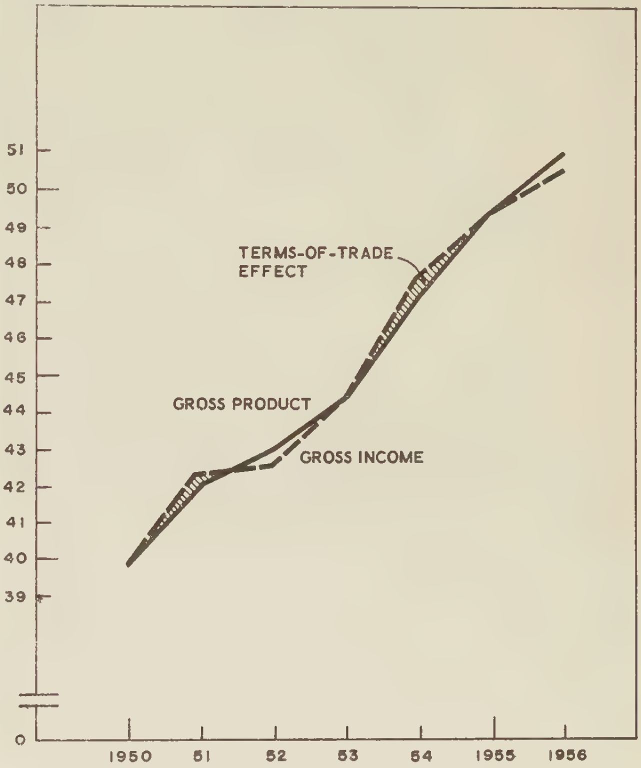


Table 2. Latin America: Growth in 1950-56

(Thousands of millions of dollars at 1950 prices)

	Gross product	*Gross income*	*Available goods and services*	*As percentage of total*	
				Consumption	*Investment*
1950	39.8	39.8	38.6	82.6	17.4
1951	42.0	42.2	42.3	81.7	18.3
1952	42.9	42.5	42.9	80.8	19.2
1953	44.3	44.3	43.1	82.5	17.5
1954	43.1	47.6	46.8	81.7	18.3
1955	49.3	49.3	48.7	82.1	17.9
1956 [a]	50.9	50.5	49.7	82.1	17.9

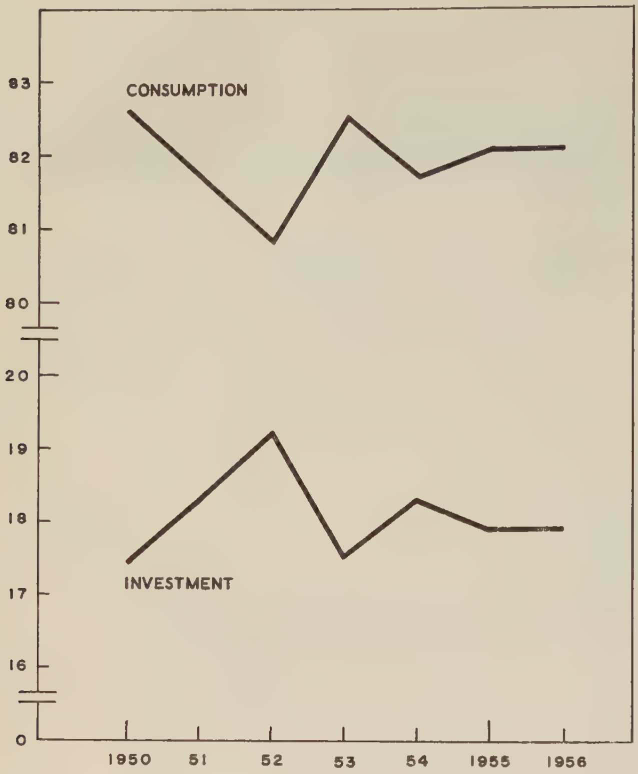
Source: ECLA, on the basis of official data.
[a] Provisional.

---

[1] 8 per cent higher than in 1955.

Figure II
LATIN AMERICA: CONSUMPTION AND INVESTMENT

(As percentage of available goods and services)
Natural scale



other hand, a decline in some of the region's staple crops, attributable to the bad weather experienced almost everywhere in Latin America, caused a contraction of product and income in the agricultural sector.

Some of the countries which had been feeling the effects of inflation pursued or introduced restrictive policies designed to check the process and to stabilize their balance of payments. In specific cases, the difficulty of righting this internal and external disequilibrium once more became apparent but did not at the same time cause a temporary fulling-off in economic activity. Broadly speaking, in 1956 the policies in question tended to restrict such activity since they affected, jointly or individually according to the country concerned, effective demand, the financing of production by the banks and imports. In this last instance supplies of imported goods essential to economic activity were not infrequently affected.

All these influences conditioned economic development in 1956 and were reflected not only in gross income but also in production and available goods and services. Hence variations in the latter two followed approximately the same course as those of income. In reality the *per capita* gross product barely exceeded the 1955 figure and *per capita* availabilities of goods and services were slightly less (see again tables 1 and 2).

Despite the behaviour of income and available goods and services, gross fixed investment increased in absolute terms by 5 per cent, its coefficient remaining at the level of the previous year. Conversely, the share of consum tion in total available goods and services underwen further reduction (see figure II).

Table 3. Latin America: Annual growth rates per capita income in selected countries

(Percentages)

	1950-54	*1955*	*195*
Latin America	2.1	1.0	0.
Argentina	−1.0	2.0	−0.
Brazil	3.8	−0.4	0.
Chile	1.7	0.0	−4.
Colombia	4.5	−.04	−1.
Cuba	−1.8	0.0	1.
Mexico	2.4	3.9	1.

Source: ECLA, on the basis of official data.
[a] Provisional.

It must be borne in mind that these general tren valid for Latin America as a whole, represent the o come of divergent tendencies in the various individ countries of the region. *Per capita* gross income declin in Argentina and, in Brazil, remained at the same le in 1956 as in the preceding year (see table 3).

Colombia's *per capita* gross income once again decreas It was 1.6 per cent lower in 1956 than in 1955, wh indicated a fairly pronounced reduction in the rate growth it had maintained over the period 1950-54.

Chile seems to have been the country where *per ca* income dropped most sharply. Its level in 1956 was 4 cent below that of 1955, which had already represen an interruption of the relatively favourable trend dur the five-year period 1950-54. Moreover, out of all countries for which statistical data on this point w complete, Chile was the only one in which the absol level of gross income also declined.

In Cuba and Mexico, on the other hand, *per capita* gr income was higher in 1956. Although in Cuba the rate increase was not very considerable, it signified a recov from the vicissitudes of the two immediately preced years. The rate of growth of Mexico's *per capita* gr income in 1956, although about 2 per cent, was rat weaker than in the previous year.

Data on gross income in Peru and Venezuela in 1956 incomplete; but the intensive activity registered in principal production sectors in these two countries, gether with the upward trend of their external incom seems to have kept *per capita* gross income at a high lev

2. Evolution of the external sector

Since 1954 the external sector has been develop favourably in the Latin American economy as a wh and the recovery in *per capita* gross income noted in 1 and 1955, was connected with this development. In 1 this progress was attributable solely to the marked i provement in the terms-of-trade effect. This alone rai income from external sources 7 per cent above its 1 level. There was a rise not only in entrepreneurs' pro but also in global demand and the volume of investme Thus 1954 witnessed the typical effects traditionally p ced by the terms of trade on the economy of the Latin nerican countries as described in previous *Surveys*.[2]

In 1955 again the external sector exerted a positive luence on Latin America's economic growth, but this ne because of the recovery in the volume of exports, ich completely offset the deterioration in that year's ms of trade. Hence the capacity to import, maintained the same high level, continued to operate to the benefit the internal economy.

The developments in 1955 were repeated in 1956. The ects of the deterioration in the terms of trade on income m external sources were more than counterbalanced by a further recovery in exports (see table 4), so that the petus given by the external sector remained vigorous oughout the year.

Table 4. Latin America: External sector

(Millions of dollars at 1950 prices)

r	*Exports of goods and services*	*Terms-of-trade effect* [a]	*Income from external sources* (A)+(B)
	(A)	(B)	(C)
50	7,100	—	7,100
51	7,100	185	7,285
52	6,900	−403	6,497
53	7,800	—	7,800
54	7,700	506	8,206
55	8,200	−23	8,127
56 [b]	8,800	−405	8,395

ource: ECLA, on the basis of official data.
In relation to 1950.
Provisional.

These general trends conceal divergencies in the corponding movements in individual countries. In Argena the slight increase in exports of goods and services s offset by the negative terms-of-trade effect and ultitely the external sector followed much the same course in 1955. It should be recalled that 1955, from the dual ndpoint of the stimuli to the internal economy provided the external sector and of the capacity to import, was t a very auspicious one for Argentina. Although the olution of Brazil's external sector was very similar to at of Argentina, the situation of the Brazilian economy d been relatively satisfactory in 1955 from the point of w in question. In Colombia, the high levels reached by ports and the terms of trade up to 1954 were followed lower figures for both these factors in 1955. The cline in exports became considerably more acute in 1956 d had a depressive effect on the internal economy, inly through the weakening of the capacity to import. ile too was among the countries whose external sector veloped similarly in 1955 and 1956. It therefore joyed the benefit of a relatively large income from ternal sources. In Mexico, although a certain decline became apparent in world demand for some of its staple commodities, the external sector as a whole pursued its upward trend at a still higher level than in 1955. Even so, there was a marked slowing down of the rate of growth recorded for this sector in the previous year. In Cuba, Peru and Venezuela also, the evolution of the external sector was satisfactory, especially in the last two countries.

The behaviour of the external sector was favourable in 1956 for Latin America as a whole and it not only stimulated the internal economy but also enhanced the capacity to import. The premise that features characteristic of the years of expansion were displayed by this sector in 1956 is thus shown to be justified. The failure of the external sector to influence *per capita* income decisively was due to the adverse operation of the other factors mentioned.

3. Import structure and economic activity

Certain balance-of-payments disequilibria prevented Latin America in 1956 from making more intensive use of its greater capacity to import a larger volume of goods from abroad which would have ensured satisfactory supplies for the internal economy. In some countries means of external payment had to be saved for the gradual settlement of short and medium-term trade debts previously contracted. In others what seemed imperative was to restore the level of international reserves, which had been declining to a dangerous extent. Lastly, in certain countries a restrictive policy had to be adopted with regard to the utilization of the capacity in question in order to stabilize the balance of payments. This tended, in the countries concerned, to keep total imports at the same level as in previous years and even to reduce purchases abroad in some instances. Cuba, Mexico, Peru and Venezuela of course do not belong to the last category since their imports considerably increased.

Whatever the cause, the fact remains that the aggregate volume of Latin American imports was approximately the same in 1956 as in 1955. So far as the share of the various economic categories in these imports is concerned, consumer goods, fuel and capital goods increased by 5, 6 and 2 per cent respectively and raw materials declined by almost 6 per cent.

The significance of these structural changes in relation to the 1956 gross product should now be noted. It is an established fact that the elasticity of domestic supply is not very high in countries at a stage of economic development like that of Latin America. Any improvement in this situation must depend, over the medium and long term, on the rate of increase of capital formation. Over the short term this elasticity is linked to the degree of economic activity attained, and this in turn is in many cases determined—in view of the difficulties arising from the relative inadequacy of the capacity to import and from the shortage of monetary reserves—by the import situation in respect of the goods required. Hence, the expansion of such activity is not likely to have been promoted by the volume of imports of raw materials effected in 1956. This seems to have been particularly true in Argentina, Bolivia, Brazil, Chile and Uruguay, where imports of the type described had already been curtailed in 1955 and were further reduced in 1956.

See the *Economic Survey of Latin America* for 1951-52 (E/CN. 291/Rev. 2, United Nations publication, Sales No.: 1953. II.G. 1953 (E/CN.12/358, United Nations publication, Sales No.: 54. II.G. I.), 1954 (E/CN.12/362/Rev. 1, United Nations blication, Sales No.: 1955. II.G. 1) and 1955 (E/CN.12/421/Rev. United Nations publication, Sales No.: 1956. II.G. I.). The der is referred especially to chapter I in each of these *Surveys*.

Their downward trend must have constituted one of the factors which, in greater or lesser degree according to the country concerned, militated against economic development, despite the favourable evolution of the capacity to import in Latin America as a whole.

4. STABILIZATION POLICY, PRODUCTION AND DOMESTIC DEMAND

The restriction of imports formed part of an over-all policy to stabilize both the internal and the external sectors of the economy. Although the various measures adopted with a view to the implementing of this policy differed substantially from one country to another, in the final analysis all were directed towards the same end.

Action was taken to restrict credit in an effort to check the expansion of inflationary total expenditure and private investment, and certain tax reforms were also introduced. Furthermore, an attempt was made to control the wage increases which in recent times had followed one another in rapid succession without heed to greater productivity. The mere enumeration of these measures is enough to give some idea of the difficulties attendant upon their practical application in the countries concerned. In some instances, in fact, the force of circumstances frustrated all efforts to put them strictly into effect, with the result that they were only partially implemented; thus conflicting situations were created which were bound to affect economic activity, whether through demand or through supply in the internal sector. In other cases such contradictions arose when an expansionist policy was pursued by means of public expenditure or bank credit with the intention of maintaining effective demand at a high level, while on the other hand exchange rates were raised as a device to curb imports and thus to stabilize the balance of payments.

Due consideration must therefore be given to the possibility that, in countries which found it necessary to adopt measures aimed at monetary stabilization and at restoring equilibrium in the balance of payments, such action may have been detrimental to the growth of the gross product, especially in view of the practical difficulty of halting an inflationary process without causing temporary recessions in economic activity.[3]

5. INVESTMENT, DOMESTIC SAVING AND FOREIGN CAPIT

Contrary to what might have been expected, the e nomic evolution which culminated in the stagnation the *per capita* gross product in 1956 in Latin America a whole did not prevent the absolute and *per capita* levels gross fixed investment from rising by 5 and 2.5 per ce respectively. At the same time, the corresponding inve ment coefficient remained above the level of the previo year (see table 5). This is a favourable symptom which one of the most noteworthy developments that took pla in the year under review, since, after all, it is precis upon the coefficient of fixed investment—the produ tivity of such investment being taken into account—th Latin America's chances of promoting the swift and stea growth of its economy depend.

The next question concerns the nature of the fact that may have helped to determine this increase in t investment coefficient at a time when the behaviour *per capita* gross income followed the lines described. must first be recalled that the coefficient of investment dependent on two main variables: the volume of domes saving and the inflow of foreign capital. As matt actually stand at present for the Latin American econom by far the more important of the two is domestic savi which has accounted in recent years for 94 per cent total investment.

In 1956 the share of domestic saving in total inve ment, while still preponderant, was slightly smaller, a it was foreign capital—net income from external sourc and reinvestment—that was largely responsible for t increment in gross investment. Such capital, besides presenting 9 per cent of total gross investment, increas in absolute terms by 70 per cent in relation to 1955. point worth emphasizing is that the principal recipien were Brazil, Mexico, Peru and Venezuela. In contra investment based on domestic saving was only 2 per ce higher than in 1955; in other words it increased at a slow pace than the rate of growth of the population.

Since foreign investment, whether in the form of rei vested profits or of new capital, usually favours the expo sectors, facts would seem to confirm what can be conje tured from the incomplete statistics available on inves ment by sectors of production, namely, that the rise gross investment in 1956 was largely attributable capital formation in the export sectors. Peru and Ven

---

[3] This point will be discussed in greater detail in due course, when the evolution of income in six countries is analysed (see section II of the present chapter).

Table 5. Latin America: Gross investment

Year	Total	Fixed capital	Changes in inventories	As percentage of available goods and services: Investment (including changes in inventories)	As percentage of available goods and services: Investment in fixed capital
	(Thousands of millions of dollars at 1950 prices)				
1950	6.7	6.5	0.2	17.4	16.9
1951	7.8	7.3	0.6	18.3	17.2
1952	8.2	7.5	0.7	19.2	17.6
1953	7.6	7.5	0.1	17.5	17.4
1954	8.6	8.0	0.6	18.3	17.0
1955	8.7	8.3	0.4	17.9	17.0
1956[a]	8.9	8.7	0.2	17.9	17.4

Source: ECLA, on the basis of official data.
[a] Provisional.

ela are outstanding cases in point. Further proof is orded by the high level of income from foreign sources ring the last three years, the peak figure having been ched in 1956 itself. The impetus given by such income the internal economic development of the Latin Ame-an countries first makes itself felt in the export sectors, sing entrepreneurs' earnings and providing incentives investment.

As Latin America's capacity to import is, broadly eaking, inadequate to meet import requirements, and as abrupt fluctuations affect the region's prospects of iform and accelerated economic growth, the signifi-nce of this channelling of investment towards an expan-n of productive capacity in the export sectors must be knowledged. Nevertheless, as other ECLA *Surveys* ve essayed to show, the economic development of Latin erica calls for such a distribution of investment as is st likely to further the diversification of production, h priority for activities serving the domestic market. e latter have to fulfil the vital function of absorbing under-employed population and the surplus manpower eased by technical progress in the primary activities. nce, in 1956 the problem of relative insufficiency of mestic saving arose once again, since, as has already n pointed out, investment on this basis increased only the same rate as the population.

To turn to another aspect of the volume of gross invest-nt, the expansion achieved in 1956 was entirely due to vate investment (see table 6). In fact, for the third r in succession public investment remained stationary about 2,000 million dollars at 1950 prices. Most of the litional private investment was in the form of equip-nt, as the growth registered by building activities was nost negligible, though they still absorbed over 50 per it of total fixed investment.

6. THE PRODUCT-CAPITAL RATIO

The other variable which combines with the investment efficient to influence economic growth is the product-pital ratio. Over the long term, it is affected by the ture of investment, inasmuch as this determines the ductivity of new capital. With the passage of time, h additional capital gradually modifies the structure the stock of capital. Except for certain short-term vements, however, Latin America's product-capital io has been inclined to remain stationary in the course the last few years. Since it fell from the high levels

Table 7. Latin America: Product-capital ratio

(Thousands of millions of dollars at 1950 prices)

Year	*Stock of capital*	*Gross product*	*Product-capital ratio*
1950	100.6	39.8	0.40
1951	104.9	42.0	0.40
1952	109.4	42.9	0.39
1953	113.6	44.3	0.39
1954	118.3	47.1	0.40
1955	123.1	49.3	0.40
1956 [a]	128.1	50.9	0.40

Source: ECLA, on the basis of official data.

[a] Provisional.

Figure III

LATIN AMERICA: PRODUCT-CAPITAL RATIO, EXPORTS OF GOODS AND SERVICES, AND GROSS INVESTMENT

(Thousands of millions of dollars at 1950 prices)

Semi-logarithmic scale

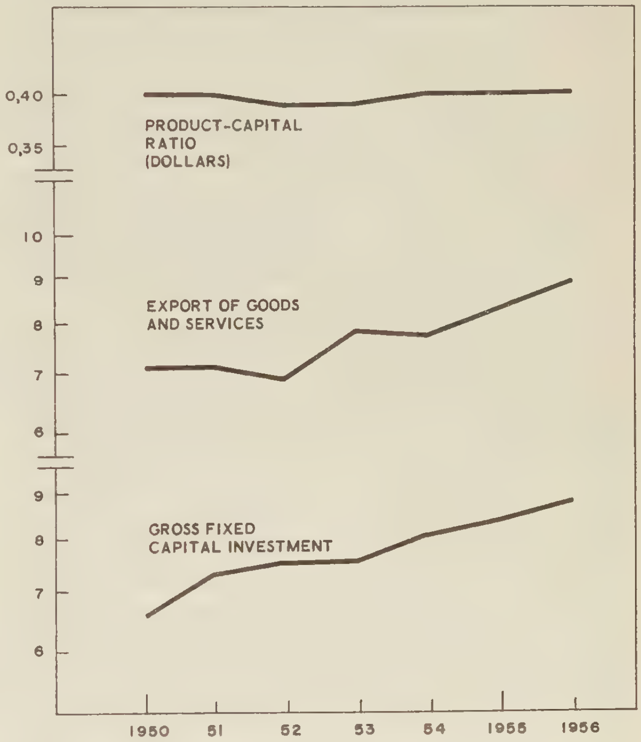


Table 6. Latin America: Structure of investment in fixed capital

(Thousands of millions of dollars at 1950 prices)

Year	*Total*	*Gross investment*			
		Building	*Equipment*	*Private*	*Public*
1950	6.5	3.7	2.8	4.6	1.9
1951	7.3	3.8	3.5	5.4	1.9
1952	7.5	3.9	3.6	5.7	1.8
1953	7.5	4.1	3.4	5.6	1.9
1954	8.0	4.3	3.7	6.0	2.0
1955	8.3	4.4	3.9	6.3	2.0
1956 [a]	8.7	4.5	4.2	6.7	2.0

Source: ECLA, on the basis of official data.

[a] Provisional.

attained by virtue of the exceptionally efficient utilization of productive capacity during the war, it has tended to stand at approximately 0.40. The year 1956 was no exception (see table 7 and figure III).

The level of the product-capital ratio over the short term of one year depends upon the volume of net additions to the stock of capital in the year in question and on the degree of efficiency with which this stock of capital is utilized. It has already been shown that the year 1956 witnessed an increase in investment, which coincided with a level of economic activity that did not imply any substantially more effective utilization of capital, as is confirmed by the slow growth of the gross product. Hence 1956 was not a propitious year from the standpoint of a short-term improvement in the product-capital ratio.

7. The gross product, by sectors

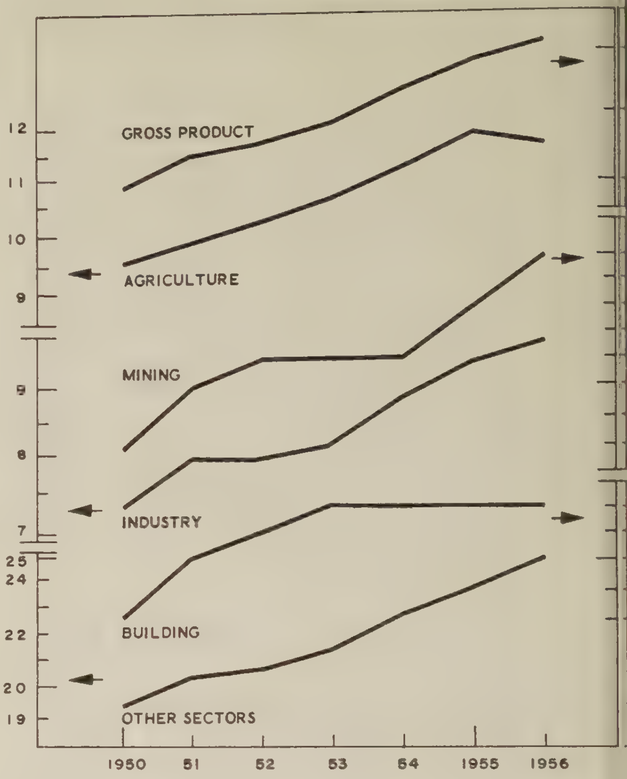
The trend followed by the gross product during 1956 was described at the beginning of the present chapter. It remains to be seen in what different ways the various sectors of production helped to determine this trend.

In terms of absolute values, the product of the agricultural and livestock sector declined in 1956, and the decrease in its relative significance within the gross product was greater still (see table 8 and figure IV). The factor mainly responsible was the bad weather which affected production in that year in one way or another; but, in addition, as a result of the United States' sales of its surplus cotton, among other commodities, cotton-planting was restricted in Mexico, Nicaragua and El Salvador, so that harvests were smaller.

The industrial sector increased more slowly in 1956 than in 1955 and yet its share in the total gross product did not contract probably because of the slower rate of growth in the other sectors. A number of different factors accounted for this slow development, which really marked a pause in the intensive rate of expansion achieved by the manufacturing sector during the past few years.

The steadiness of external demand for mining products continued to provide the same incentives in 1956 as before. The result was an increase in the sector's output, further facilitated by the substantial investments of which mining in several different countries had enjoyed the benefit in recent years.

Figure IV
LATIN AMERICA: GROWTH OF GROSS PRODUCT, BY SECTORS
(Thousands of millions of dollars at 1950 prices)
Semi-logarithmic scale



Building remained at the same level in 1956 as in 19 while the growth in the production of services outstrip that of the population.

II. TRENDS IN SELECTED COUNTRIES

1. Argentina

Owing to the same difficulties that for years past ha been retarding Argentina's economic development, gross product increased in 1956 by only 1.5 per cent, t is, less rapidly than the population. The terms of tra became unfavourable once more, with the result that gr

Table 8. Latin America: Gross product by sectors of economic activity

Sector	*Values in thousands of millions of dollars at 1950 prices*			*As percentage of gross product*		
	1954	*1955*	*1956* [a]	*1954*	*1955*	*1956* [a]
1. Agriculture	11.3	11.9	11.7	24.0	24.1	23.1
2. Mining	2.1	2.3	2.5	4.5	4.7	5.0
3. Manufacturing	8.8	9.4	9.8	18.7	19.1	19.3
4. Building	2.2	2.2	2.2	4.7	4.5	4.3
5. Services	22.7	23.5	24.7	48.1	47.6	48.3
Gross product	47.1	49.3	50.9	100.0	100.0	100.0

Source: ECLA, on the basis of official data.
[a] Provisional.

ome rose at a rate of expansion on the part of gross
duct and income meant that consumption, the growth
which barely kept pace with that of the population,
vented any increment in investment, which in fact fell
er cent below the preceding year's level.

hus, as time goes by, the acuteness of the structural
is affecting the Argentine economy becomes more ap-
ent. Serious limitations are imposed upon the growth
ncome by bottlenecks in the external and obstacles in
internal sectors. This situation has been analysed in
vious reports, and here a brief reminder will suffice.
ing to the discouragement of agricultural production
l the deterioration of the terms of trade, the value of
orts has fallen too low to cover the cost of imports
ential to current economic activity, not to mention the
ge requirements of capital goods that have to remain
satisfied. Hence the bottleneck in the external sector
Argentina's economy; any effort to raise the gross
oduct to a substantial degree is bound to be frustrated
the impossibility of importing, without causing marked
ernal disequilibrium more of the goods indispensable to
h expansion, until the situation is gradually relieved
l finally remedied. From another angle, the internal
ficulties constituted mainly by energy and fuel short-
es and the highly unsatisfactory position as to transport
ilities are also slowing up the potential growth of the
oduct.

A closer examination of these obstacles to the more
pid and integrated development of the Argentine eco-
my at once reveals their common origin in the inade-
acy of the capacity to import. Consequently, in the
al issue, it is in the rehabilitation of agricultural pro-
ction and of exports that the way out of the impasse
s. One of the basic aims of the monetary readjustment
ected at the close of 1955, which abolished the over-
uation of the currency that had been heavily depressing
ports while subsidizing import prices, was to help restore
e balance between agricultural and industrial prices,
sturbed as it had been by the over-valuation. This was
e first of the measures designed to offer farmers new
entives. As, moreover, Argentina's agricultural and
estock production has fallen behind technically in the
t quarter of the century, and as the whole of the fertile
d of the pampas is already in use, if production is to be
panded beyond certain relatively narrow limits, highly
ensive technological reform, which will also increase
oductivity in the agricultural sector is essential. To
is end, the Government has set up an *Instituto de Tecno-*
ía Agropecuaria (Institute of farm technology), with
high degree of technical and administrative autonomy
d with initial annual resources of 300 million pesos
ich, after the first year, will be augmented as exports
crease.

However, despite these measures, during 1956 the agri-
ltural product rose only 2.2 per cent above its 1955
vel, partly because the most important sowings had
ready been made when the prices of traditional commo-
ties were officially raised, and partly because weather
nditions were not as favourable as seemed to be the case
lfway through the year. Even so, this improvement
the agricultural product contrasts favourably with the
haviour of the product of the industrial and building sectors (see table 9). Furthermore, a very considerable expansion has been registered, thanks to the stimulus of the new prices, in the areas under seed in 1956, which will be harvested in 1957.

Table 9. Argentina: Product and income, 1956

(Millions of dollars at 1950 prices)

	1956 [a]	*1955*	*Percentage variation in 1956*
Gross product	11,068	10,906	1.5
Terms-of-trade effect	−179	−128	—
Gross income	10,889	10,772	1.1
Available goods and services	11,102	11,015	0.8
Gross investment	2,282	2,352	−3.0
Consumption	8,820	8,663	1.8
Product by sectors			
Agriculture	1,938	1,896	2.2
Mining	130	125	4.0
Industry	2,515	2,547	−1.3
Building	635	644	−1.4
Other sectors	5,849	5,687	2.8

Source: ECLA, on the basis of official data.
[a] Provisional.

The stimulus thus provided was somewhat weakened by the general rise in prices which inflation brought in its train. Hitherto it has been possible to counteract such effects by means of the exchange rate margin left for that purpose. But if the inflationary process continues unchecked, and still more if external prices go on declining, the impetus given by satisfactory agricultural and livestock prices may once again dwindle or disappear.

It goes without saying that the expansion of agricultural production, and consequently of exports, is one feature of the policy aimed at establishing internal conditions likely to foster the more rapid and balanced growth of income. Another is an import substitution process which would provide a sounder basis for industrial development and render it less vulnerable to external contingencies than in 1956. In this latter year the product of the industrial sector was 1.3 per cent lower than in 1955. At the present time, Argentine industry is highly dependent upon supplies of essential goods from abroad. Ever since 1948, there has been a relative shortage of such supplies which has resulted in marked fluctuations in industrial activity. In the years when purchases of such goods were most inadequate, industry encountered difficulties which it had great trouble in overcoming. Conversely, in those other years, such as 1955, when it was better supplied with imported raw materials, its development was more satisfactory. Nevertheless, in view of the low capacity to import, these more abundant supplies have created very real balance-of-payments problems. In fact, the year cited—1955—closed with a deficit of 200 million dollars. Despite the contraction in imports which affected the development of the internal economy, in 1956, the balance of payments was still negative to the extent of approximately 160 million dollars. Hence the urgent need for a resolute effort to promote the import substitution process referred to above.

In spite of supply difficulties, in 1956 Argentine industry seems to have encountered a certain insufficiency of real demand, and to have been particularly hampered by the energy shortage, which has recently been growing more acute. Building activities also declined by 1.4 per cent in relation to 1955. On the other hand, increments were recorded in the product derived from mining (4 per cent) and, on smaller scale (2.8 per cent), in that of other sectors, among which the most important was that of trade.

This slow and unbalanced economic development aggravated the price disequilibrium already noted in previous years. It must be recalled that the authorities were hoping that an increase in productivity would compensate for the rise in prices of approximately 10 per cent which resulted from the currency devaluation at the end of 1955. But this was not the case, and the inflationary process that had been developing for several years past continued uninterrupted. The rise in prices was followed by much larger wage increases, which, of course, again forced prices upwards. Thus the increment in the cost of living reached almost 17 per cent between December 1955 and December 1956.

It would thus seem that the internal and external disequilibria in the Argentine economy were closely related to the slow development of the gross product in 1956.

2. Bolivia

The economic situation in Bolivia was not favourable and the difficulties under which the country has been labouring for some time increased in 1956. Gross income and the volume of available goods seem to have been lower than in 1955. This circumstance, together with the accelerated expansion of the means of payment, gave a further exceptionally strong impetus to inflation, which was most vividly reflected in the fact that the cost of living rose between January and November by more than 169 per cent.[5]

At the end of 1956, in view of the increasingly serious difficulties created by the inflationary process in the allocation of resources, the development of foreign trade and the distribution of income, the Bolivian authorities decided to apply a currency stabilization programme. The gradual improvement of Bolivia's national income, which is still very low, will mainly depend on the expansion of agricultural production and the diversification of exports, of which tin still represents over 58 per cent of the total. Unquestionably, however, if such an improvement is to be achieved, the inflationary spiral must also be checked or at least moderated.

The fall in gross income in 1956 was the consequence of a sharp decline in agricultural production, which in turn was due principally to bad weather, but partly also to the fact that there were still large numbers of agricultural workers who left the land in order to engage in illicit trade in the urban centres and smuggling in the frontier zones. Despite the encouragement offered by a slight rise in the price of tin, mining output as a whole seems to have remained stationary. Industrial activities were apparently maintained at a high level, but this was partly due to the artificial incentive provided by the marked over-valua of the exchange rate applied to imports of raw mate and by the high profits accruing from clandestine exp of a considerable proportion of production. It shoul added that some of the foodstuffs imported at preferen exchange rates or received under the United States ass ance programme were also re-exported as contrab There was thus a large outflow of essential commodit at the expense of Bolivia's internal supplies, which w already at a very low level.

At the end of 1956, as has been seen, Bolivia resolve make a far-reaching effort to mitigate the inflation process. The following are the principal features of new policy:

(*a*) Instead of the multiple exchange rate system force, a single rate was established in relation to United States dollar. The *Banco Central* fixed the parity rate for the boliviano in conformity with the dom tic monetary situation and the conditions prevailing the exchange market, a step which involved substan devaluation. At the same time all restrictions on expo imports and invisible external transactions were w drawn. To meet the demand for foreign exchange an maintain the exchange rate, the Bolivian Governm obtained several loans from the Government of United States and from the International Monetary Fu with which it set up a 25 million dollar stabilization fu

(*b*) The exchange reform put an end to the indi subsidies which many essential imports had been receiv through the preferential exchange rates. A comple free internal price régime was also established and system of cheap company stores run by the mining railway enterprises was abolished. Only increases tariffs for public services and rents remained subject certain controls.

(*c*) These measures were bound to lead to a considera rise in prices and, consequently, to a fall in real inco especially in the wage-earning sector. As a coun measure, it was agreed that salaries and day-wages sho be raised by a fixed amount in local currency. But o these adjustments had been effected, it was decreed t earnings were to be frozen for one year.

(*d*) The monetary authorities were allowed to fix legal cash reserves which the banks were entitled to h as well as the ratio of deposits to the bank's capital reserves, so as to prevent an excessive expansion of b credit to private activities.

(*e*) As the growing budget deficits of the Governm and, more particularly, of the autonomous official inst tions constituted, together with the price-wage spiral, main factor in inflation, a decree was passed to the ef that henceforward the national budget would cover income and expenditure of all State agencies, instituti or dependencies, and that none of these was entitled to sort to the *Banco Central* in order to meet its financ requirements. Similarly, a single foreign exchange bud was established for the official sector and official impo and expenditure were restricted to the items most urgen needed. On the other hand, to compensate for the fis revenue previously derived from the differential excha rates and from many other sources, several new ta ere imposed, among which may be mentioned royalties n exports and a new *ad valorem* tariff.

---

[5] The study on the *Economic Development of Bolivia* (E/CN. 12/430) contains a detailed analysis of the evolution of income, as well as of the causes and effects of inflation in Bolivia.

Too short a time has elapsed since the adoption of the abilization measures for a complete analysis of their sults to be attempted. Nevertheless, mention may be ade here of certain highly significant changes which ok place as soon as the new anti-inflationary policy was ıt into effect, as well as of specific problems to which this olicy has given rise.

In the first place, with the abolition of the system of ntrols and of the preferential exchange rates, the *raison être* of many illicit trade operations disappeared and in rticular the smuggling of goods into neighbouring counies came to an end. This circumstance, together with an crease in the availabilities of essential goods received nder the United States assistance programme, improved mmodity supplies on the domestic market and virtually iminated shortages. Furthermore, large groups of agriultural workers who had previously been speculating in odstuffs or carrying on a clandestine export trade went ck to their land. This return of manpower to agriculure will almost certainly mean that the next harvests will e bigger.

Among the positive effects of the policy recently iniated, not the least important is the creation of a new sychological climate encouraged by the disappearance of rivileges and the energy and good faith with which the nti-inflationary measures have been applied. One of the earest illustrations of this psychological change has been e readiness of the mass of the population to accept their uota of sacrifice in order to further the stabilization rocess. Another fact which bears witness to the restoraon of confidence in the monetary outlook is that the emand for foreign currency on the exchange market has een far below expectations, so that the level of boliviano uotations has been maintained without excessive reourse to the stabilization fund.

Alongside these favourable effects of the stabilization olicy, problems have arisen whose solution, at any rate ver the short term, will be no easy matter. The first and ost important is the fall in the real income of employees nd wage-earners. The rise in the cost of living caused by e devaluation of the boliviano, by the abolition of subdies on essential commodities and by the suppression of e cheap company stores, has in fact exceeded the increent in the monetary income of workers and employees. ince the end of February, however, a minor recovery has aken place in the real income of workers, thanks to a ight decrease in the cost of living. Furthermore, the overnment is studying the possibility of effecting some eductions in transport tariffs and fuel prices, without eopardizing the financial equilibrium of the enterprises oncerned. The forecasts of better harvests in 1957 also ive grounds for the hope that prices of some agricultural ommodities may fall.

The devaluation of the boliviano meant the disappearnce of the principal source of the inflationary deficit egistered by the nationalized and private mining enterrises, which constitute Bolivia's most important export ector. Yet, although on the one hand domestic currency ncome from mining has increased, on the other costs have also risen—in some cases apparently to a higher degree—in consequence of the rise in wages, of the abolition of price controls and of the exchange reform itself. At the present time, the budget situation of the mining enterprises is being carefully studied by the Bolivian authorities.

A third category of problems derives from the lower sales effected by industries, especially textile manufactures. One of the reasons for this contraction lies in the loss of the former market for Bolivian commodities created in the frontier zones of neighbouring countries by the exchange anomalies previously described. Furthermore, to judge from available data, smuggling seems to have changed direction, and some domestic commodities are now facing competition from their foreign counterparts. But the most serious of the difficulties encountered by industry is undoubtedly the contraction in domestic consumption caused by the fall in real income. The Bolivian Government is currently engaged in studying measures to promote the rationalization of domestic industry, so as to adapt it to the changed market conditions and thus contribute to the solution of its problems.

The present fiscal situation also displays unsatisfactory features which will worsen in the future. To balance the budget—a requisite which is one of the corner-stones of the stabilization policy—the Government has been compelled to keep the salaries of civil servants at low levels, to bring public investment to a standstill and to confine itself to strictly essential expenditure. But even with the help of these measures and of the counterpart funds, representing about 38 per cent of the budget provided under the United States assistance programme, the likelihood that income will be sufficient to cover expenditure in the present year is small. In this connexion it should be pointed out that up to now import and other duties seem to have fallen below the figures budgeted, as a result of the decline in economic activity.

It is highly probable that in the near future the Government of Bolivia may find itself obliged to increase public expenditure, either on account of possible adjustments in the salaries of Government employees or because of the urgent need to add to its investments. As the possibilities of saving under other heads are very limited, the expansion of fiscal resources constitutes a pressing problem.

This brings up the question of one of the basic difficulties in Bolivia's current situation. Anti-inflationary policy is necessarily bound to give rise to temporary maladjustments while the economy is adapting itself to an income and demand situation more consistent with the national product. These maladjustments may cause disemployment in certain sectors, especially in mining and industry, and sound employment opportunities will have to be found for the labour force thus released. On the other hand, care must be taken lest the remedial measures cut down domestic production and national income more severely than is strictly necessary, or, in other words, lest the country finds itself faced with the stagnation or recession of its economic development. The evils from which Bolivia has always suffered, especially in recent years, are due, in the final analysis, to the low productivity of its human resources, to the absence of capital formation, to the fact that its activities are practically confined to the production of a single commodity, to the absence of a spirit of enterprise—in a word, to the backwardness of its economy. If the root of these evils is not eradicated, a recurrence of the inflationary phenomena can be taken for granted.

In order to avoid such immediate setbacks as disemployment and to maintain and accelerate to the maximum economic development, not only human but also financial and technical resources are needed. No very optimistic view can be taken of Bolivia's capacity to provide the latter either at once or over the short term. Thus it would seem that an essential requisite for the country's economic recovery is an inflow of capital from abroad within a very short space of time, so as to open up new investment possibilities which will simultaneously prevent disemployment and increase domestic production. While the basic and immediate criterion for determining the suitability of such investment would be its capacity to absorb manpower and the rapidity with which it matures, as in the case of investment in agriculture and certain branches of industry, it would perhaps be unwise to carry this principle to such an extreme as to neglect basic works which would allow of greater development over a rather longer term; to be specific, certain electricity and irrigation projects. Hence, alongside private investment, and during the interval while investors in this sector gain enough confidence to become interested on a satisfactory scale in the opportunities offered by Bolivia, public investment will have to continue to play a very important role. Once inflationary means of financing have been discarded, and given the limited possibilities of increasing fiscal resources by means of taxation, only international co-operation can help Bolivia to overcome its immediate difficulties and find a lasting solution to its problems.

3. BRAZIL

The year 1956 witnessed a continuation of the series of adjustments in the Brazilian economy initiated two years previously with the energetic exchange reform introduced at the end of 1953. The main object of this reform, which was to lower the import coefficient, was successfully achieved. The encouragement of exports was the second objective and this too was attained, though in a lesser degree. The phase of substantial balance-of-payments deficits during 1951-1954 was succeeded in 1954 and 1956 by a period of increasing surpluses. The import coefficient which had reached 17 per cent in 1951 and 13 per cent in 1954, dropped to 11 and 10 per cent in 1955 and 1956 respectively. This adjustment had two main consequences for the industrial sector, which had been rapidly expanding since 1948. The first of these was a short-term effect: the higher prices for imported raw materials and equipment raised relative costs in several manufacturing sectors which had a negative effect on production. The second consequence, which made itself felt over a longer term, consisted in rechannelling industrial investment towards those sectors of production concerned with import substitution, which had formerly been greatly encouraged by the existing exchange policy; it will thus be possible for such substitution processes to be continued over the next few years.

But the economic reform which has been taking place in Brazil during the last two years has not been confined the need to reduce the import coefficient. Inter pressures were so severely intensified that by 195 marked acceleration of the inflationary process w admitted to be very likely. The credit measures adop in the first half of that year were relaxed in its la months, and it was forecast that in 1956 expenditure the Federal public sector would exceed income by 50,0 million cruzeiros, or approximately half the Federal G vernment's total outlay in the year in question. Althou this deficit was cut down by one-half, it was impossible prevent the public sector from continuing to constitut factor of disequilibrium, so that the efforts of the moneta authorities to curb the expansion of credit to the priv sector were largely nullified.

The cost-of-living index increased in 1956 by 20 cent in Rio de Janeiro and 22 per cent in São Paulo. 1955 it had risen in these two cities by 23 and 19 per ce respectively, and from 1952 to 1955 the correspond average increments had been 22 and 25 per cent. There consequently no sign that the pace of inflation slackened. Nevertheless, in 1956 an endeavour was ma to remedy one of the principal sources of disequilibriu namely, the incapacity of the fiscal system to meet t needs of the Federal Government. Tax reforms w introduced in respect of income and consumption; a the term of applicability of the Act allocating funds the *Banco Nacional do Desenvolvimento Econômico* w extended. The previous year's fiscal reforms enabled t development programmes financed with special funds through the Bank in question to be maintained and ev intensified. They did not suffice, however, to preve problems from arising later in connexion with the finan ing of the Governments' current expenditure and t deficits of the State enterprises, although the lat reaped the benefit of considerable tariff increases in 19 Consequently, tasks which still have to be faced are th of continuing the technico-administrative reform of t parastatal enterprises, especially the railways and t shipping companies, and of more thoroughly reorganizi the fiscal system on lines which will endow it with grea flexibility and place it in a position to finance the Gove ment's budget expenditure. Despite the steps taken 1956, a heavy deficit is forecast for the current year 40,000 million cruzeiros according to a preliminary es mate—which, even if it is reduced by measures of e nomy and others, will keep inflationary pressure at a hi level throughout the year.

(a) *Trends in demand*

Preliminary estimates show that between 1955 and 19 Brazil's gross product increased by only 2.8 per cent, th is, virtually at the same rate as the population (see ta 10). Owing to the deterioration in the terms of trade, t increment in gross income stood at the rather lower fig of 2.4 per cent. Lastly, still according to preliminary da consumption expanded by 2.4 per cent, which would see to suggest that *per capita* consumption declined slight This trend, however, was distinctly different from th observed in the preceding year. Although product a consumption increased in 1955 by 4.3 and 4.1 per ce respectively, fixed investment decreased by 10 per ce whereas it did not decline in 1956. Consequently, t

Table 10. Brazil: Product and income in 1956

(Millions of dollars at 1950 prices)

	1956 [a]	*1955*	*Percentage variation in 1956*
oss product	13,535	13,167	2.8
ms-of-trade effect	—43	10	—
oss income	13,492	13,177	2.4
ailable goods and services	13,346	13,155	1.5
oss investment	1,732	1,732	0.0
nsumption	11,614	11,259	3.2
oduct by sectors			
Agriculture	3,587	3,616	—0.8
Mining	122	113	8.0
Industry	2,440	2,332	4.6
Building	755	755	0.0
Other sectors	6,631	6,351	4.4

ource: ECLA, on the basis of official data.
Provisional.

wnward trend of the investment coefficient was modi- d. In fact, between 1952 and 1955, the investment efficient—excluding investment in inventories, which greatly influenced by the accumulation and sale of ffee stocks—had fallen from 16 to 12.9 per cent, hough in 1954 it was still as much as 14.9 per cent; but 1956 this coefficient was 13 per cent, which shows that e decline of the development effort was partially rested.

The behaviour of external demand was very erratic. e quantum of exports grew by 4.6 per cent and their lue by 3.1 per cent. These higher figures reflect the iking increment in coffee sales, which amounted to .8 million 60 kilogramme sacks, representing an increase 23 per cent in relation to 1955. The value of coffee ex- rts rose to 1,030 million dollars, a level 22 per cent above at registered in the preceding year. Cotton exports, the other hand, decreased by 18 per cent in volume and per cent in value, and sales of cacao by 6 and 19 per nt respectively. A 25 per cent decline was recorded in e value of the remaining exports. Since the additional ffee exports came from stocks in the hands of the overnment or of dealers, the income accruing to pro- cers from the external sector must also have undergone reduction.

(b) *Production trends*

Manufacturing increased by approximately 4.6 per cent 1956 as against 3.8 per cent in 1955, but this expansion as a reflection of widely divergent trends. The con- mer goods industries, specially textile manufactures, ere affected by the over-all evolution of demand just scribed. Furthermore, the 37 per cent rise in the mini- um wage in the first half of the year had major reper- ssions on the costs of these industries. Capital goods dustries, on the contrary, where wages were lower and nport substitutions easier, continued to expand rapidly. ne output of steel ingots expanded by 16 per cent, aching 1,353,000 tons. That of rolled steel products nounted to 1,120,000 tons and was therefore 14 per cent rger. The cement industry, which has a current capa- ty of 3.7 million tons, raised its output to 3.3 million ns, or by 20 per cent.

The year 1956 was characterized by a large number of new undertakings in the capital goods manufacturing sector. Various projects were approved by the Government under the programme for the nationalization of the motor vehicle industry, according to which it will be compulsory by 1960 for 90 per cent of the weight of a lorry and 95 per cent of the weight of other vehicles to be domestically produced by 1960. On the basis of plans already approved, an output of more than 100,000 vehicles is anticipated for that year.

The product of the agricultural sector was almost 1 per cent less, in contrast with the 8.6 per cent increase recorded in 1955. This fact was basically attributable to a fall of 22 per cent in the production of coffee. In cotton and cacao, small decreases of 1 and 2 per cent respectively were registered. Production of commodities for the domestic market, however, increased by approximately 6 per cent. Mining output continued to grow at its 1955 rate of 8 per cent. This expansion reflected that of petroleum and iron ore production. The output of petroleum, which amounted to 4,058,700 barrels, was 100 per cent higher than in 1955. Between January and December 1956, production rose from 7,000 to 25,000 barrels daily, and the yield per well from 60.7 to 175 barrels a day. The refineries produced 6,050 million litres of derivatives, which represented an increase of 55 per cent. The saving in dollars derived from the production, refining and transport of petroleum was as much as 66.4 million in 1956, approximately twice as much as in 1955.

In the electric energy sector, installed capacity increased by 14 per cent, reaching 3.5 million kilowatts. The year 1956 was also characterized by highly important decisions in this sector relating to the construction by the Federal Government of two large hydroelectric plants. One is to be at Tres Marías, in the upper basin of the River San Francisco (Minas Gerais), which will ultimately have a capacity of 520,000 kW and will raise the potential of Paulo Afonso considerably; and the other is to be at Furnas, which is equidistant from São Paulo, Rio de Janeiro and Belo Horizonte, and will have initial capacity of 900,000 and a final capacity of 1,100,000 kW.

4. COLOMBIA

In 1956 Colombia's rate of economic development came to a temporary standstill. The rate of growth of gross income which in previous years had been 6 per cent on an average, was reduced to only 0.5 per cent in 1956, or considerably less than the increase in the population. Factors influencing this situation were the deterioration in the terms of trade and the relative stagnation of the gross product.

A study of the statistics given in table 11 for the various sectors of production will immediately show that this relative stagnation was caused by the 3 per cent contraction in the agricultural product and specially by the smaller coffee crop. This decline in the agricultural sector and the consequent reduction of exports had adverse repercussions on internal demand and on the capacity to import.

To offset these effects on demand, the Government continued to apply the compensatory policy first adopted in 1955, which encouraged industry, mining and building

Table 11. Colombia: Product and income in 1956

(Millions of dollars at 1950 prices)

	1956 [a]	*1955*	*Percentage variation in 1956*
Gross product	3,176	3,120	1.8
Terms-of-trade effect	−11	29	—
Gross income	3,165	3,149	0.5
Available goods and services	3,286	3,257	0.9
Gross investment	811	758	7.0
Consumption	2,475	2,499	−1.0
Product by sectors			
Agriculture	1,072	1,105	−3.0
Mining	118	109	8.3
Industry	711	668	6.4
Building	171	154	11.0
Other sectors	1,104	1,084	1.8

Source: On the basis of official data.
[a] Provisional.

activities. As at the same time it was necessary to restrict imports, the 8 per cent decrease in these activities affected available goods and services, which thus increased by only about 1 per cent in absolute terms, that is, rather more slowly than the population.

It is worth mentioning that the measures adopted to reduce imports mainly affected consumer goods,[6] while purchases of capital goods continued to expand and those of raw materials contracted only to a moderate extent. These variations in imports, together with the effects of the expansionist policy described, seem to have contributed to the maintenance of the high volume of investment characteristic of recent years. In fact, gross investment, which had increased by 49 per cent over the course of the last six years, rose by 7 per cent in 1956. The high level of capital goods imports in turn created additional difficulties in connexion with the balance of payments, which for the second year in succession closed with a heavy deficit. Consequently, Colombia's international reserves were reduced to their lowest level in the past few years. The raising of the exchange rate, which was the only means of restricting imports adopted, was not enough to keep their volume within the bounds imposed by the capacity to import in 1956. Nevertheless, the high level and the structure of Colombia's imports in the last few years were such that a greater reduction would have been possible without jeopardizing purchases of goods essential to current economic activity. At the end of 1956, with a view to restoring equilibrium in the international current account, the authorities adopted new and energetic measures.[7] Until the end of 1955 price increases had been moderate in Colombia apparently due to rapid economic growth. In 1956 prices soared following the market expansion of means of payment from internal sources and the progressive rise in import prices as a result of the compensatory policy. The monetary expansion was in fact mainly due to the increase in the bank credits granted to the Government and to the private sector in order to encourage industrialization and to maintain econo activity at a high level in face of the reduction in inco from foreign sources and the decline in agricultural p duction. The higher prices of imports were the result the exchange surcharges which were applied on t occasion to an ever-increasing number of articles p chased abroad. Their aim was to stimulate the substi tion process and relieve the pressure exerted by the rise demand on foreign exchange resources obtained throu the compensatory policy. The measures adopted at end of 1956, to which reference was made above, a seem to have been directed towards correcting this pr disequilibrium.

5. CHILE

In 1956 Chile's gross product fell 2.5 per cent below 1955 figure, reaching the lowest absolute level registe in the last four years. This experience goes to show th while the Latin American countries as a group are mov towards a more advanced stage of development, Chilean economy has for some time been tending to behind. Indeed, whereas the product of the region a whole increased between 1945 and 1955 at an aver annual rate of 6.3 per cent, that of Chile did so by o 2.7 per cent. From 1953 onward this trend was inte fied, since the economic growth of Latin America general continued to make progress, but that of Cl came to a standstill (see table 12).

The improvement in the terms of trade arising from events in Korea continued until 1956 and offset, with completely neutralizing, the reduction in the prod registered since 1953; total gross income was practica the same in 1956 as in 1953, but *per capita* income lower.

In 1956 the improvement in the terms of trade entirely due to the record prices for copper, which rose 40.39 dollar cents per pound in New York, as against average price of 39.11 dollar cents in 1955. Neverthel by March 1956 a slow weakening of the market had ready set in, and by December quotations had droppe 33.88 dollar cents. This reduction and the fall in nitr prices may possibly mean that in 1957 Chile will lose the relative price advantages obtained since the hostili in Korea from the improvement in its terms of tra

The effects of the stabilization policy launched at beginning of 1956 must be judged in the light of the un lying production trends described, for the introductio a policy of this type at a time when favourable factor another sort are accelerating the country's econo growth is a very different matter from applying it preci when these other forces are helping to deter this grow For example, if the product is increasing, restrictions the purchasing power of certain population groups, wh may be indispensable if stability is to be ensured, need always be carried so far as to reduce the purchasing po of these groups in absolute terms; a slowing-up of its of expansion will suffice. But this was not the cas Chile. The task of stabilization was undertaken w average real *per capita* income was decreasing. Hence effort involved was necessarily more arduous.

The campaign against inflation was waged mainly two fronts—those of credit control and of salaries

---

[6] Imports of consumer goods were over 50 per cent lower in 1956 than in 1955, when they had in turn decreased by 23 per cent in relation to 1954.

[7] For a more detailed description of these measures, see chapter III.

Table 12. Chile: Product and income

(Millions of dollars at 1950 prices)

	1950	*1951*	*1952*	*1953*	*1954*	*1955*	*1956* [a]
1. Gross income	1,872	1,893	2,053	2,226	2,174	2,232	2,198
2. Terms-of-trade effect .	...	31	61	84	42	90	116
3. Gross product (1—2) .	1,872	1,862	1,992	2,142	2,132	2,142	2,082
Agriculture	281	269	312	323	311	316	309
Manufacturing	320	294	316	380	366	351	351
Mining	109	125	120	116	96	107	113
Building	54	47	55	73	64	74	45
Other sectors	1,108	1,127	1,189	1,250	1,295	1,294	1,264
4. Trade balance	—18	—9	—8	—5	+21	—24	—8
5. Available goods and services (3+4)	1,854	1,871	2,000	2,147	2,111	2,166	2,090
Consumption	1,648	1,698	1,823	1,870	1,950	1,951	1,916
Investment	168	176	184	208	197	215	173
6. Annual variations in wholesale prices							
Agriculture	...	28	37	26	65	74	42
Industry	...	30	19	26	54	83	61
Mining	...	24	26	35	48	66	104
Building materials . .	...	21	38	24	61	114	51
Imported commodities	...	37	19	15	54	73	81

Source: ECLA, on the basis of official data.

[a] Provisional.

ges policy. With respect to credits, a reduction was
ected in the rate of expansion of issues and rediscounts
the commercial banks and of the loans granted by
se banks to the public, while at the same time an
empt was made to direct credit towards the encourage-
nt of productive activities. As regards wages, the
omatic adapting of remunerations to the rise in the
t of living was suspended, and an increase equivalent
50 per cent of the cost-of-living increment in 1955 was
horized. Steps were also taken to modify exchange
icy, but the measures adopted were not primarily
igned to contribute to stabilization, as they involved a
siderable increase in prices of imported supplies.

The effect of the stabilization policy on prices was to
w down the rate of the rise in the cost of living from
per cent in 1955 to 56 per cent in 1956. Although this
centage constitutes a record for Chile, with the ex-
tion of those registered in 1954 and 1955, and shows
t the country still needs to make a more prolonged and
ady effort to achieve stabilization, there can be no
bt that it is also an index of the success attained so far.

But perhaps more important than their slower rate of
rease were the changes in the structure of prices—and
sequently in the distribution of income—that took
ce in Chile as a result of the stabilization policy.

n the first place, the living or minimum wage of em-
yees was raised by 46.5 per cent, when the cost of
ng in the preceding year had risen by 75 per cent.
erage increments in urban day-wages were estimated at
per cent. Unquestionably, therefore, the real income
the wage-earning group (understood as including
ployees and workers) suffered a contraction propor-
nately greater than the drop in total production would
gest.

In the second place, relative prices in the agricultural sector, which had been improving in the five preceding years, deteriorated in 1956 and fell back to their 1950 level. While agricultural prices rose by 42 per cent, those of manufactures increased by 62 per cent, those of building materials by 51 per cent, those of mining products by 104 per cent and import prices by 81 per cent. This deterioration was accompanied by a 2.6 per cent reduction in the volume of agricultural production and consequently this sector's real income dropped about 20 per cent below the figure recorded in the previous year. Moreover, at the time of the devaluation in 1956, the rate of exchange for exports stood at a level equivalent to 69 per cent of the purchasing power parity rate calculated on the basis of 1950 prices. Devaluation raised the rate for exports to the equivalent of 84 per cent of the parity rate; thus the relative position of exporters improved. Unfortunately, world prices for agricultural exports fell by 23 per cent, which largely neutralized the effects that the introduction of a more realistic exchange rate might have had on the supply of such commodities. The same was not true of other exports, as the improvement in the exchange rate was accompanied by higher world prices.

In the third place, it is clear that the control of credit granted through Government organizations as well as banks had its most direct effect on the building industry, where activity declined by 36 per cent. The protracted inflationary process had practically eliminated the long-term mortgage loans required for the financing of such activities, which therefore had to rely largely on short-term credit. Furthermore, as a result of the inflation and of certain tax concessions granted to particular types of building, this industry expanded so much that it absorbed 50 per cent—undoubtedly an excessive proportion—of the country's savings. There is consequently nothing surprising about the fact that it felt the impact of the stabilization measures so directly.

Hence it can be inferred that the burden of the stabilization policy was borne by three sectors, namely, wage-earners in general, agriculture and building. The combination of the first two elements may set up new and more serious obstacles to the removal of one of the greatest hindrances to the country's development: the backwardness of agricultural and livestock production. It is a well-known fact that the principal consumers of farm produce are to be found among the lower income groups; thus, if their income decreases, demand for such commodities contracts. A deterioration in relative prices in the agricultural sector also weakens the inducements to invest in this branch of activity.

The stabilization policy also affected other activities, either through the redistribution of income or more directly. For example, the logical consequence of a decline in the purchasing power of wage-earners and of families in the lower-income brackets in general, was a falling-off in the activities that produce goods especially intended for the wage-earning sectors. Although manufacturing remained at its 1955 level, the output of the food-processing and clothing industries decreased by 2.7 per cent and 12 per cent respectively. The production of textiles also contracted. Again, the decline in building entailed a similar downward trend in the activities on which the building industry depends for its supplies. The output of a group of industries manufacturing durable consumer goods—cement, leather, etc.—fell by 6.2 per cent. That of the metallurgical industries, on the other hand, greatly increased, mainly owing to the expansion in the productive capacity of the steel industry, whose larger output was mainly sold on foreign markets. In contrast, metallurgical activities related to the transforming of primary commodities seem to have been fairly seriously affected.

The decline in building also influenced the formation of fixed capital, as this branch of activity is not classified among consumer industries. Since building accounted for 50 per cent of total investment, the latter must have decreased by at least 18 per cent as a result of the 36 per cent contraction in building. As a matter of fact the reduction in question amounted to 19 per cent, and it may therefore be asserted that the building situation accounted for the decrease in investment in 1956. But another corollary to be deduced from these comparisons is that capital formation in terms of equipment, which is the type that affects development most, does not seem to have been adversely influenced by the stabilization policy. It must be borne in mind, however, that the higher exchange rates will probably mean that equipment costs increase much more than those of labour. In the case of agriculture, where there are technical possibilities of choosing between methods which call for inputs of each of these factors in widely differing proportions, the change in their relative prices may severely handicap so essential a process as mechanization.

A point worthy of mention in connexion with investment is that the resources earmarked by Chile for this purpose are barely enough to prevent a decline in *per capita* productive capital. In fact, the average rate of
investment has fluctuated around 10 per cent, but not
than 6 per cent is needed for replacing the stock of cap
Consequently, only about 4 per cent of the count
annual production is being allocated to the expansio
capital. This means that, even on the basis of the m
optimistic hypotheses as to the productivity of capi
Chile's stock of production goods grew by only 2 per c
annually, as compared with the 2.4 per cent increase in
population.

To sum up, a study of Chile's economic situation in 1
in the light of the experience of the last five years lea
the impression that the fall in the product in the yea
question is largely a reflection of underlying forces ha
pering the development of the Chilean economy, and o
to a small extent an undesirable outcome of the stabil
tion policy. Among these forces, the most importan
undoubtedly inflation itself, which is diverting savi
towards unproductive investment and stockpiling
speculation purposes. In so far as the policy adopte
conducive to stability, it is helping to remove the exist
obstacles, but in the process inevitable adjustments
taking place in the level and structure of productio

During 1956 several measures were adopted to palli
the undesirable effects of the stabilization policy.
example, the changes in the exchange rate introduced
October and again in November raised it from 494 pe
to the dollar to 563 by the end of the year. Steps w
also taken to encourage agricultural production, amo
which may be mentioned the abolition of price controls
all farm produce. In fact, ever since 1951 agricultu
production has been receiving better price treatme
The agricultural price ratio improved from 100 in 1950
123 in 1954. This ought to have resulted in an expans
of the area under cultivation in 1955/56, but no su
development took place, a fact which suggests the gr
inelasticity of Chilean agriculture in regard to price var
tions over the short term. Neither do the 1956 sowi
seem to have benefited by the free price policy, for acco
ing to preliminary estimates, the area under seed is c
culated to have contracted slightly in the case of alm
all the winter crops.

As regards the impact of the stabilization policy on
income of wage-earners, no further measures were adop
in the course of 1956 to compensate for the loss of p
chasing power suffered by these groups. Nor was it p
sible to alleviate disemployment, which began to ma
itself felt in several branches of activity.

It was obviously very difficult to apply measu
which would have mitigated these effects without at
same time producing serious inflationary consequen
Furthermore, it should not be forgotten that, as previou
pointed out, the anti-inflationary policy was adop
under conditions that were not altogether favourable
the growth of production. Chile's experience once m
bears witness to the substantial difficulties encounte
by an anti-inflationary policy when it cannot rely on
backing of large-scale international financial co-operati
If through such co-operation the decline in building acti
ties had been simultaneously offset by productive inve
ment and larger availabilities of consumer goods, cert
internal tensions would have been eased which m

pardize the anti-inflationary policy that the Chilean vernment is so zealously pursuing.

6. Mexico

The Mexican economy continued to grow in 1956, ough not at such a rapid rate as in previous years. far as can be judged from the preliminary estimates it been possible to make, the gross product increased by out 4 per cent, as against 8 per cent in 1955. This wing-down was due to certain adverse factors which ected particularly the agricultural sector, and, through other aspects of the national economy.

Agricultural production, according to available esti-tes, fell 4.5 per cent below its 1955 level (see table 13). e of the causes seems to have been bad weather, which s especially harmful to crops for domestic consumption, marily maize and sugar-cane. Another unfavourable tor was the weakening of external demand for cotton, xico's principal crop, production of which contracted 22 per cent, largely because of world market sales of ited States cotton surpluses. In face of this situation, l the consequent risk of failure to sell part of the crop, policy of the Mexican authorities was designed both to trict production and to facilitate exports. Among the asures aimed at limiting production may be cited those ncerning the redistribution of credit and the use of water rrigated areas, the purpose of which was to discourage rginal planters.[8] Of the steps taken to facilitate cotton es abroad, the most important were the reduction of the *valorem* duty on exports and the conclusion of clearing l barter agreements providing for the exchange of ton for equipment and durable consumer goods. Thus, example, quotas for automobile assembly plants were ed partly in terms of cotton.

n contrast with the cotton, maize and sugar-cane ation, substantial production increments were regis-ed in some agricultural lines. Wheat was the most outstanding case in point, production having expanded by 41 per cent. The output of coffee also increased by 23 per cent. Mexico thus took third place among the Latin American producers, superseding El Salvador.

Table 13. Mexico: Product and income in 1956

	Millions of pesos at 1950 prices	*1955*	*1950*
Gross product	60,145	4.3	38.9
Terms-of-trade effect in relation to 1950	−556	—	—
Gross income	59,589	4.7	37.6
Gross investment . . .	9,270	14.9	56.1
(*a*) Private	6,795	19.0	114.6
(*b*) Public	2,475	5.0	−10.7
Product by sectors			
(*a*) Agriculture	11,542	−4.5	29.4
(*b*) Mining	1,552	−1.7	12.0
(*c*) Petroleum	1,071	7.9	45.6
(*d*) Energy	382	11.5	76.5
(*e*) Manufactures . . .	12,523	8.0	44.6
(*f*) Building	1,157	7.3	27.3
(*g*) Trade	20,974	6.0	43.7
(*h*) Transport	2,977	6.0	46.3
(*i*) Government	3,458	13.0	45.2
(*j*) Other sectors . . .	4,509	4.2	30.2

ource: ECLA, on the basis of official data.

The factors militating against expansion acted in practice upon agriculture. The extension of their effects to the rest of the economy was more than offset by other factors of a favourable nature. These were, on the one hand, the increase in the capacity to import, and, on the other, the impetus given to investment.

The growth of the capacity to import derived both from exports of goods and from tourist expenditure. Despite the cotton situation, the aggregate quantum of Mexico's exports rose by 6.7 per cent, and the terms of trade improved by barely 0.2 per cent. Consequently, the increments in the capacity to import generated by exports and by the tourist industry amounted to 7 per cent and 8 per cent respectively.

Gross investment was 15 per cent higher than in 1955, and represented 15.5 per cent of the gross product. This development was basically due to an increase of 19 per cent in private investment, probably allied in turn to the level of profits in 1955, which was in all likelihood very high, in view of the favourable external and internal circumstances attending the development of economic activity in that year. Such an assumption is borne out by the fact that the profits accruing to a group of enterprises on which data are available rose by 20 per cent between 1954 and 1955; and it seems likely that much the same may be true of the rest.

The higher figures for private investment are also partly attributable to an increment of, apparently, over 20 per cent in financing on the basis of domestic saving, as well as to a larger inflow of capital from abroad. Direct foreign investment increased by 16 per cent, and the international credit utilized by 8 per cent.

The public sector also contributed to the expansion of gross investment. Capital formation in this sector was 5 per cent higher, the major increases being found among the decentralized organizations and the local authorities. In contrast, investments by the Federal Government and by State and para-statal enterprises remained, in real terms, at approximately the same level as in 1955. While the absolute sum expended by the Federal Government on public works was no larger than in 1955, its effect on the expansion of production and demand was perhaps greater, thanks to the completion of a series of projects which had taken several years to carry out, and which are of decisive importance for the country's development. The heavier investment on the part of the local authorities and decentralized organizations was mainly allocated to expanding the network of secondary roads, easing low-cost housing situation and improving transport systems and markets in urban areas, especially in the capital.

Current public expenditure increased more intensively than investment. While the Federal Government's total expenditure rose by 13 per cent, the increment in current expenditure and transfers amounted to 17 per cent.

In consequence of the expansion of investment, imports of equipment increased by 20 per cent, the increments being particularly marked in the case of transport and

---

See part Two, chapter I, section III, 6.

industrial equipment, where they reached 23 per cent. Capital goods for agriculture were only just maintained at the preceding year's level, in conformity with the trends noted in this sector.

The capital goods industries, too, reacted intensively to the greater stimulus provided by investment. Thus, the output of cement rose by 9 per cent. Still more noteworthy was the progress achieved in the iron and steel industry, which manufactured 25 per cent more pig iron, 22 per cent more steel ingots and 17 per cent more rolled products than in 1955. Domestic production of equipment, the rate of which kept close to that of consumption of flat steel products, must have expanded by about 20 per cent, since this was the figure for additional consumption of rolled products, including such items as rod and structural steel, where the increase was presumably less rapid. The increment in construction was more moderate than the growth of capital formation as a whole, and, to judge from the consumption of cement and plate glass, amounted only to approximately 7 per cent.

Again, in the chemicals industry considerable production increments were recorded, the most outstanding being those registered for sulphuric acid (26 per cent), alkalis (9 per cent) and ammonium sulphate (28 per cent).

Industrial production as a whole increased by 8 per cent, a figure which reflects the intensive rate of output in the industries already mentioned, and a slower upward trend in production of consumer goods, partly attributable no doubt, to the position in the agricultural sector.

A slight decline of just under 2 per cent was also obs
vable in mining, in relation to the 1955 output. T
decreases took place mainly in the precious met
Among industrial metals, lead and zinc registered sli
contractions, and copper an increment of 5 per ce
Sulphur pursued its upward trend, with an output
ceeding that of 1955 by 50 per cent.

Production of petroleum increased by 8 per cent, than
to a 3 per cent increment in the extraction of crude and
11 per cent expansion in the output of refined produ
The latter figure reflects only a change in the composit
of production of greater unit value (high-octane petr
lubricants, etc.). This structural modification was
cisively influenced by the installation of the new Mina
lan refinery, which is the first plant in Mexico to use
catalytic disintegration method. In addition, other sig
ficant events took place in connexion with the petrole
industry. Three new fields were discovered, and
network of oil pipelines was extended by 592 kilometr
Reserves of natural gas increased by 12 per cent, reachi
a level 100 times higher than that attained 10 years befo

Installed capacity in electric power stations rose
7 per cent, and the power generated by 11 per cent. T
contribution of the hydroelectric plants to total capaci
made further progress towards regaining its former p
ponderance, thanks to the investments effected by t
Comisión Federal de Electricidad and the most importa
private enterprises.

Chapter II

FOREIGN TRADE: EXPORTS

I. INTRODUCTION

uring the greater part of 1956, world market condi-
ns for Latin America's exports of primary commodities
e relatively normal. This general statement does not
course imply disregard of the special situations arising
iven countries for particular commodities with respect
price levels or the volume of exportable surpluses. It is
nificant that, despite such individual divergences, the
in American countries were able in the course of the
r to place an increasing volume of their exportable
duction on the world market, that none of them
istered an accumulation of surpluses although in some
es it became necessary to cut prices. Furthermore,
country at least—Cuba—expanded its sugar exports
ficiently for carry-overs from previous years to be
siderably reduced.

ne of the most outstanding events in primary com-
dity trade was the adoption by the United States
vernment of measures to facilitate and increase world
rket sales of its heavy agricultural surpluses. Although
surplus disposal programme had been in effect for
ne time,[1] the innovation introduced in 1956 with respect
cotton selling prices caused considerable dismay among
in American producers. Anxiety was felt lest the fall
world market prices might become steeper and lest the
ited States should carry into effect its declared inten-
n of regaining a specific share in world exports of this
nmodity. However, the reduction in prices was con-
ed to particular grades of cotton, and no decline was
orded in the total volume of Latin America's sales
road.

he political crisis in the Middle East was another
cumstance which had far-reaching repercussions on the
rld primary commodity market, although its conse-
ences did not immediately affect most of those exported
Latin America. To begin with, higher prices were
oted for certain commodities, such as wool, tin and
ar, but some proportion of these increases could be
ributed mainly to the rise in maritime freight costs, and
o—at least where sugar and wool were concerned—to
intensification of demand for stockpiling purposes.
over-all increase in the prices of petroleum, which is
commodity most directly affected by the blocking of
Suez Canal, began only in January 1957, after a period
stability which had lasted more than three years. In
event, as far as Latin American commodities are con-
ned, the effects of the closing of the Canal seem to be
re closely linked with possible changes in the European
countries' demand for raw materials, should the reduction of petroleum supplies perceptibly lower the level of their industrial activity.

Lastly, attention must be drawn to certain changes introduced in international commodity agreements in 1956. Two such agreements—those on wheat and sugar—were renewed during the year, while under the terms of a third—that on tin, now ratified by the Governments of the member countries—a beginning was made on the constitution of a buffer stock which can be used to keep the market price of tin within certain limits. When the wheat agreement was renewed, the minimum and maximum prices established under its original terms were slightly reduced. This modification does not seem to have had any considerable effect on the price levels of wheat traded outside the Agreement. Argentina, which had not been a signatory of the earlier Agreement, acceded to it in its new form, but this country's export quota excludes the volumes covered by its bilateral treaties.

In the new Sugar Agreement, too, price changes were introduced, the former system of minimum and maximum prices being replaced by another establishing three price zones, within each of which the Council administering the Agreement can adopt decisions as to minimum sale prices or as to the volume of the basic export quotas of the member countries.

II. THE PRIMARY COMMODITY MARKET IN RECENT YEARS

The analysis of the world market situation in 1956 may conveniently be preceded by a brief summary of the most significant trends registered in the volume of exports and in external prices during the previous six years (see tables 14 and 15). As regards sales abroad, attention should be called in the first place to the sharp contrast between agricultural exports from the temperate zone (cereals, meat, wool, etc.) and those from the tropical zone (coffee, cacao, cotton, sugar); whereas the former remained throughout the period below their 1950 levels, the latter, despite frequent fluctuations, tended on the whole to increase. A similar distinction may be drawn between mining commodities, for while petroleum, copper and zinc—especially the first of these—registered relatively steady growth, in the case of tin, lead and nitrate a definite downward movement was recorded.

Nevertheless, so great is the importance of petroleum within this group and so striking has been its expansion, that mining commodities in the aggregate show the steadiest and most continuous rate of growth for the whole period 1950-56.

A detailed study of table 14 reveals that there are very few of Latin America's exportable commodities which have

---

In 1954 three ways of disposing of surplus products on the
ld market had been authorized under Act No. 480. These
e as follows: (a) sales payable in the currency of the purchasing
ntry; (b) barter for strategic materials, and (c) grants-in-aid.

Table 14. Latin America: Exports of some primary commodities

(Millions of dollars at 1950 prices)

	1950	*1951*	*1952*	*1953*	*1954*	*1955*	*1956* [a]
Commodities exported by the Rio de la Plata countries							
Wheat	208.5	188.4	9.3	190.2	235.0	306.7	228.6
Maize	47.0	37.6	40.0	63.1	128.0	26.6	53.0
Meat	176.3	148.7	116.6	129.0	136.1	152.5	217.8
Hides	160.4	86.3	120.5	108.9	103.5	112.9	132.4
Wool	352.0	154.0	236.6	381.8	246.8	255.2	328.0
Linseed oil	64.1	80.3	8.6	35.0	76.2	48.5	13.2
TOTAL	1008.3	695.3	531.6	908.0	925.6	902.4	973.0
Index	100.0	68.9	52.7	90.0	91.8	89.5	96.5
Tropical commodities							
Coffee	1,440.1	1,543.0	1,574.7	1,693.7	1,341.0	1,547.2	1,652.8
Cacao	124.8	98.3	77.9	109.5	120.0	118.1	143.5
Cotton	347.4	361.8	329.4	461.7	596.6	563.4	629.2
Sugar	627.5	661.1	627.1	722.7	574.8	696.3	695.1
TOTAL	2,539.8	2,664.2	2,609.1	2,987.6	2,632.4	2,925.0	3,120.6
Index	100.0	104.9	102.7	117.6	103.6	115.2	122.9
Mining commodities							
Petroleum	1,223.6	1,382.3	1,448.5	1,422.1	1,534.0	1,708.6	1,948.7
Copper	190.3	182.4	202.6	188.5	216.2	231.1	242.7
Lead	90.2	72.6	81.2	83.3	80.2	75.3	72.8
Zinc	41.2	48.2	56.4	50.1	39.8	50.1	60.4
Tin	63.6	67.5	65.1	70.9	58.7	56.9	48.3
Nitrate	70.8	67.9	56.2	52.5	67.0	56.2	49.5
TOTAL	1,679.7	1,820.9	1,910.0	1,867.4	1,995.9	2,178.2	2,422.4
Index	100.0	108.4	113.7	111.2	118.8	129.7	144.2
GRAND TOTAL	5,227.8	5,180.4	5,050.7	5,763.0	5,553.9	6,005.6	6,516.0
Index	100.0	99.1	96.6	110.2	106.2	114.9	124.6

Source: Official foreign trade data.
[a] Provisional figures.

displayed a steady upward trend over the last seven years. Two commodities have been mainly responsible for the expansion recorded. Petroleum shows the most uninterrupted growth curve, and that of coffee, after a temporary decline in 1954,[2] began to rise once more in 1955, although at a slower rate than was registered for petroleum exports.

Another product showing considerable expansion is cotton. Planting was substantially extended in some Latin American countries, and the volume of exports increased up to 1956, despite ever keener competition from United States fibre. In copper and sugar the upward movement was erratic. Most of the remaining commodities can hardly be said to have followed a rising trend, but rather to have fluctuated more or less widely, owing in many cases to the variations in the volume of exportable surpluses. The most outstanding cases in point would seem to be wheat, maize and linseed oil. As regards world market prices, it should be noted in table 15 that petroleum, besides being the commodity which remains at the most stable level, is the only one that suffered no setback during the period under review. For all the other commodities price fluctuations in both directions were relatively wide and reflected in a high degree the changing conditions of world supply and demand. In this connexion it must be pointed out that only in the case of coffee is t contribution of the Latin American countries to wor production large enough for variations in their output have a decisive impact on world supplies. But intere also attaches to the fact that even in the case of coffee t Latin American countries have been unable to modera the intensity of certain periods of price decline. What more, when they have attempted to do so, they ha succeeded only in accumulating unsold surpluses, whi they have later had to dispose of on foreign markets lower prices.[3]

The varying range and duration of price fluctuatio precludes the establishment of clearly defined trends b commodity groups. If, however, Latin America's tot exports and the resultant unit value indices are co sidered,[4] it can be seen that over-all price levels underwe a slight decline in 1956.

III. EVOLUTION OF THE TERMS OF TRADE

If the evolution of Latin American trade in 1956 analysed as a whole, it proves to be favourable from t standpoint of the larger volume of exports, but consider

---

[2] It should be recalled that this was the year which witnessed the most spectacular rise in coffee prices on foreign markets.

[3] Examples are provided by Brazil's experiments in fixi minimum export prices for cotton in 1952 and coffee in 1954, a Chile's with copper in 1953.

[4] See below table 16.

Table 15. World market prices of primary commodities

	1950	1951	1952	1953	1954	1955	1956	*Percentage variations* 1955/1954	1956/1955
tos 4 coffee, New York [a]	50.9	54.3	54.1	58.5	78.3	57.0	58.3	−27.2	2.3
izales coffee, New York [a]	53.2	58.7	57.0	59.8	80.0	64.4	73.9	−19.5	11.5
ia cacao, New York [a]	29.2	35.1	35.8	34.9	55.7	36.2	25.5	−35.0	−29.6
ar, New York free market [b]	5.0	5.7	4.2	3.4	3.2	3.2	3.5	0	9.4
ar, American market, New York [b]	5.1	5.1	5.3	5.4	5.2	5.0	5.1	− 3.8	2.0
itoba No. 1 wheat, Canada [c]	1.91	2.18	2.30	2.09	1.81	1.77	1.76	− 2.2	− 0.6
erican Middling cotton [d]	41.6	53.3	44.3	36.2	38.5	37.0	31.3	− 3.9	−15.4
shed wool, 56's Boston [e]	136.4	225.4	111.8	107.2	119.4	110.0	99.9	− 7.9	− 9.2
shed wool, 56's, London [f]	144.6	183.0	95.4	107.5	112.8	104.0	98.9	− 7.8	− 4.9
ctrolytic copper, New York [a]	21.2	24.2	24.2	29.0	30.0	37.3	42.1	24.3	12.9
ctrolytic copper, London [a]	22.4	27.6	32.7	31.6	31.3	44.5	40.5	42.2	− 9.9
, New York [a]	95.6	128.3	120.5	95.2	92.1	94.6	101.0	2.7	6.8
d, New York [a]	13.3	17.5	16.5	13.5	14.1	15.1	16.0	7.1	6.0
:, New York [a]	14.6	18.8	17.1	11.6	11.2	12.8	14.0	14.3	9.4
de Petroleum [g]	2.51	2.51	2.51	2.65	2.76	2.76	2.76	0	0

[a] Dollar cents per pound.
[b] Cuban sugar, 96° polarization, dollar cents per pound.
[c] Dollars per bushel, sales outside the International Agreement.
[d] American cotton imported by the United Kingdom, dollar cents per pound.
[e] Uruguayan wool imported by the United States, dollar cents per pound.
[f] Wool from the Dominions sold by auction in London, dollar cents per pound.
[g] Crude petroleum, 33-33.9 gravity, dollars per barrel, Oklahoma, United States.

m another angle it is somewhat discouraging; there was, fact, a deterioration in the terms of trade. Although s deterioration was less serious than in 1955,[5] the point ich must be emphasized is that it partly offset the vantages which Latin America might have obtained m the greater efforts devoted to production for export.

\ brief review of the course followed in the last few rs by the two variables which determine the terms of de will shed light on this question (see table 16).

ble 16. Latin America: Unit value indices of exports and imports, and terms of trade

(1950 = 100)

Year	Exports	Imports	Terms of trade
1	118.2	115.2	102.6
2	112.2	119.1	94.2
3	107.4	110.9	96.8
4	114.6	107.5	106.6
5	107.3	107.9	99.4
6 [a]	105.2	111.1	94.6

ource: Official foreign trade data.
Provisional figures.

The boom consequent upon the hostilities in Korea ised a sharp rise in export and import prices in 1951. e greater relative increase in export prices in the year in estion entailed a slight improvement in the terms of de. This, however, was of a very transitory nature, as the two subsequent years prices of exports fell with ater speed and intensity than those of imports. In 4 a fresh recovery in export prices—attributable in main to coffee and cacao—coincided with a fall in import prices and thus enabled the terms of trade to reach their peak level for the past six years. Nevertheless, those exportable commodities whose prices improved during the first half of 1954 fell back to their previous levels in the course of the following year, and with this downtrend the improvement in the terms of trade disappeared. In 1956 export prices declined at the relatively insignificant rate of barely 2 per cent. Import prices, on the other hand, registered their first increase in the past four years, exceeding their 1955 levels by a little over 3 per cent. Consequently, the deterioration in the terms of trade in 1956 was largely due to the rise in import prices, as distinct from the situation in the immediately preceding years, when it had been caused mainly by significant decreases in export prices.

IV. CHANGES IN THE MARKETS FOR EXPORTS

Broadly speaking, the changes in the principal foreign markets for Latin American exports are relatively insignificant. They have often been due to the external demand situation, but in specific cases they have also been the result of considerable changes in the volume of exportable surpluses or in the trade policy adopted by competing countries. The wheat and cotton markets in 1956 provide examples of changes deriving from these causes. Argentina's smaller exportable surplus of wheat meant that its exports last year were 1.1 million tons (30 per cent) lower than in 1955. So pronounced a decline was bound to alter the distribution of exports over the various markets. In this case the purchaser mainly affected was Brazil, which had absorbed one third of Argentina's wheat exports in 1955, but obtained only one quarter in 1956. In addition to this decline in Argentina's exportable surplus, there were maladjustments in the quotations for the agreement-dollars used in intra-regional trade between Argentina, Brazil and Chile. All this led to a perceptible falling-off in inter-Latin-American trade in 1956.

The rate of decline amounted to 5 per cent in 1956 and had ched 7 per cent in 1955, in each case in relation to the preceding r.

In the case of cotton, reductions in intra-regional trade were also registered in 1956, but, in contrast, there was a substantial increase in exports to the European countries —especially the United Kingdom—and to Japan.

As regards the coffee exports of the two major Latin American producers (Brazil and Colombia), the changes in the total volume of sales involved certain variations in the shares of the United States and European markets. Brazil, which increased its exports considerably, sold 61 per cent of the total on the United States market, with a corresponding reduction in the proportion assigned to the European market, although in absolute terms there was no decline in European sales. In Colombia, on the contrary, total exports contracted by about 14 per cent, but within this smaller volume the share of the United States was larger than in 1955, while that of Europe, especially Germany, decreased.

Copper provides an example of a change in the destination of exports which is due, at least partially, to differences in price levels on the most important markets. In 1955 and 1956 copper exports to Europe expanded considerably, thanks to the more favourable prices prevailing on the London market throughout most of this period. At the same time a slight contraction was registered in exports to the United States, but as from the end of 1956 trade seems to have returned to its traditional channels, since prices are now stabilized at a higher level on the New York than on the London market.

No significant change was recorded in the relative share of the various foreign markets in the other basic export commodities.

V. MARKET ANALYSIS OF STAPLE COMMODITIES

1. Coffee

At the beginning of 1956, conditions on the world coffee market were not very promising, and the producer countries took steps to reach an intergovernmental agreement which would guarantee coffee prices a minimum degree of stability. As time went on, however, some of the causes of this widespread concern tended to disappear, and the special features which were to determine final market trends in 1956 began to make themselves evident. The radical change in coffee prospects was bound up with the changes which the exportable surpluses of some of the main producer countries underwent and, although its effect was concentrated in the so-called "mild" grades[6] because they command the highest prices, the retail price of the product delivered to the end consumer was considerably affected.[7] Thus, during the greater part of the year the following were the dominant factors in the coffee trade: (*a*) plentiful supplies of the strong grades of coffee (mainly Brazilian and African), Brazil's exportable production having risen from 14.2 million sacks in the crop year 1954/55 to 21.3 million sacks in 1955/56, while Africa's output increased from 6.6 million sacks to 8.4 million in the same interval; and (*b*) smaller exporta quantities of the mild grades—chiefly produced by Col bia, Mexico and Central America—partly because of smaller harvests in some of the countries concerned, a partly because Colombia's carry-overs from previo crops were almost entirely exhausted.[8]

Following the changes in the relative position of suppl of the different grades of coffee, there was a marked crease in overpricing of the milder grades. While t trend became apparent at the end of 1955, it gathe renewed impetus early in 1956 and became even m marked during the third quarter of the year. The p mium on the price of the staple Colombian grade (Ma zales) as compared with the principal Brazilian ty (Santos No. 4), which had been 7.4 dollar cents dur 1955, rose to 15.8 dollar cents in 1956, while that of basic Mexican grade (Coatepec) in relation to the corr ponding type from Brazil increased from 4.15 dollar ce to 12.78 dollar cents between these two years. However is important to point out that the heavier overpricing not confined to these higher-quality grades, but was a extended to Brazilian as against African coffee. T premium on Santos No. 4 in relation to the Ambriz ty (from West Africa), which had stood at 11.9 dollar ce per pound in 1955, rose to the unprecedented level of 1 dollar cents per pound in 1956.[9]

Inevitably the rise in the prices of some staple grades green coffee led to higher quotations for roasted coffee a thus to a process of consumer price increases which a parently followed the same course as during the first h of 1954. Nevertheless, even in their most acute pha price increases at the consumer level were not as high in 1954 and therefore, of course, did not have the sa restrictive effect on consumption. This can be seen fr an examination of world import statistics for 1956, wh imports amounted to 36.7 million sacks, or about 9 cent more than the 33.7 million sacks registered for 19 The United States was responsible for the major part this expansion, because of its position as the world's fo most coffee consumer, Europe coming next, with a mu smaller share.

But while aggregate United States coffee imports r considerably, their composition underwent a notewort change. Stress must be laid on this fact because it he to account for the slower rate at which consumer pri rose in 1956.[10] Brazilian coffee accounted for almost entire increase in United States imports, the African p duct constituting only a very limited proportion. A

---

[6] The "mild" grades of coffee constitute slightly less than one-third of world output.

[7] This is mainly true of the United States market, where the commercial blends contain a high proportion of mild coffees. Consumption of mild coffees is less significant in the European countries, although in the last two years it has increased considerably.

[8] If the estimates of exportable production made by the Uni States Department of Agriculture are consulted, no decline in figures for Colombia's output will be noted. This is partly beca such estimates are made for the farm year beginning in July ending in June, whereas the crop year in Colombia begins October and ends in September. See on this point the statist note on coffee in the article "Recent trends in the exports prices of some products", *Economic Review of Latin Amer* special issue, Bogotá, Colombia, August 1955, page 30.

[9] It was not only in 1956, however, that overpricing of Brazil as compared with African coffee increased. Premiums on San No. 4 coffee in relation to the Ambriz and Uganda types rose 1954 to practically twice the figure at which they had remai throughout the post-war period. The relatively lower price African coffees thus partly accounts for the increment in Uni States imports of these types.

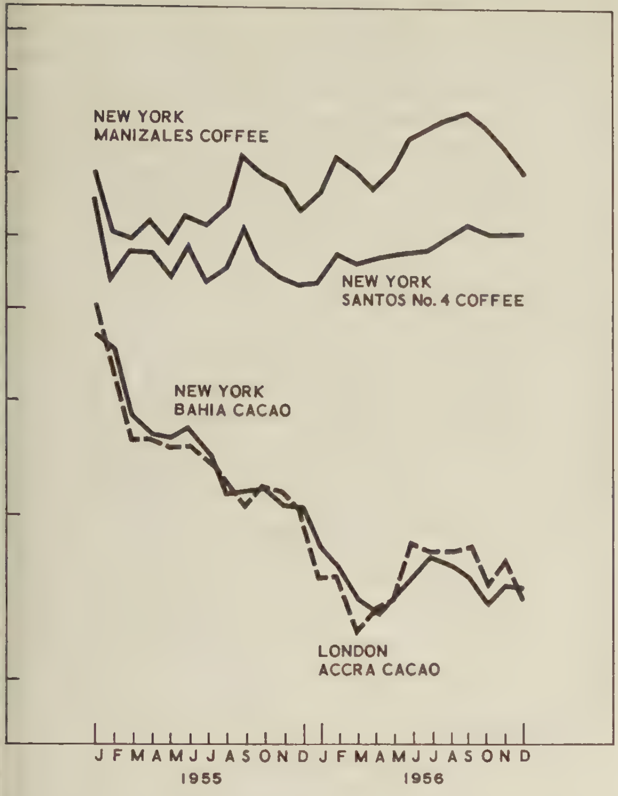
[10] In relation to 1954.

Figure V

PRICE OF PRIMARY COMMODITIES
COFFEE - CACAO

(Dollar cents per pound)

Semi-logarithmic scale



ult, the unit value of 1 pound of imported green coffee, ich had been 53 dollar cents in 1954, dropped to 51 ts in 1956.[11] Between these two years, the New York ce of Manizales coffee rose from 64.4 to 73.9 dollar cents increase of 14.7 per cent), while quotations for Santos . 4 coffee went up only from 57 to 58.3 dollar cents per , that is, by 2.2 per cent (see figure V). As most of the rement in imports was concentrated in the cheaper es of coffee, the consumer was largely able to avoid ying the higher prices for the superior grades.[12]

Changes in the volume of exports were reflected in ferent ways in the foreign exchange income of each of main producer countries. The total number of sacks ported by Brazil increased by 20 per cent,[13] and as there s also a slight rise in prices, the aggregate foreign change income accruing from these exports increased ostantially, thus contributing—in combination with credit restrictions introduced by the monetary thorities—to a striking improvement in the balance payments and a perceptible reduction in the premiums (agios) on publicly-auctioned foreign exchange for all categories of imports. In Colombia, on the contrary, exports declined by 13.6 per cent.[14] This falling-off was counterbalanced by the 14.7 per cent rise in prices, but the balance-of-payments situation did not improve, and seems even to have deteriorated still further, to judge by the more severe restrictions imposed on imports and by the sharp devaluation of the national currency in terms of free exchange market dollars.

2. Cacao

Fluctuations in world prices for cacao were relatively wide throughout 1956. This year apparently witnessed the completion of the process of market readjustment which began in the fourth quarter of 1954, after the marked and often abrupt price increases registered for cacao during the first half of that year. However, it is important to note that in the course of this process (which lasted throughout 1955), world cacao prices lost all the ground gained during the last 6 years, and in 1956 remained at a level barely higher than that prevailing during the twelve months preceding the Korean war (see figure V).

The relative stability of the market at this low price level seems to have been due to two main causes. On the one hand, world production has followed an uninterrupted upward trend during the last three crop years. On the other, consumption recovered very slowly after the sharp contraction to which the price increases gave rise, partly because consumer prices for the end product failed to decrease in proportion to the fall in quotations for the raw material. This phenomenon was recently discussed in an analysis of the cacao market.[15]

Some of the Latin American exporters of cacao were able partially to offset the price decline by increasing the volume exported. Brazil, for example, raised the volume of its sales abroad by rather more than 25 per cent, while the loss on the annual average price between 1955 and 1956 amounted to 30 per cent. Approximately the same reduction in prices was registered in the case of Ecuador, but the increment in the volume of its exports reached 19 per cent. The Dominican Republic's sales dropped by about 25 per cent. Venezuela, another of the important Latin American exporters, maintained its exports at approximately the same level in the two years under review.

So far as the importers are concerned, most of the European countries increased the volume of their purchases. The salient exception was the United Kingdom, whose imports were almost 40 per cent lower in 1956 than in 1955. United States imports rose by 11 per cent between these two years.

3. Sugar

After more than three years during which the price of raw sugar fluctuated around the minimum level estab-

---

[1] In both years reference is made to the first ten months.

[2] This of course means that the product reaching the consumer of slightly lower quality. But consumer preference possibly oured this slight loss in quality as a means of combating the her prices, as had happened previously in the case of the mber of cups obtainable from each pound of roasted coffee ich rose from an average of 40 to 60).

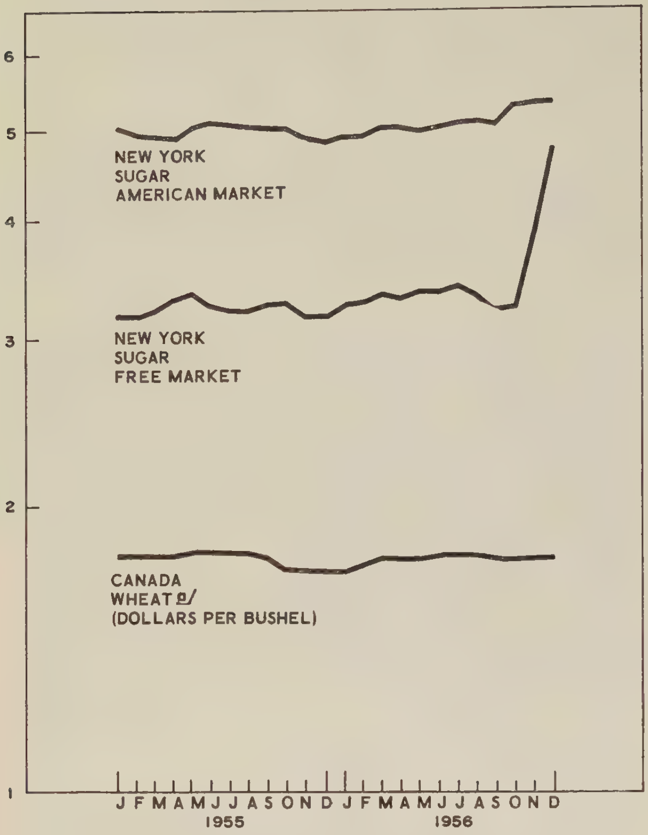
[3] 16.8 million sacks in 1956 as against 13.7 million in 1955.

[14] From 5.9 million sacks in 1955 to 5.1 million in 1956.

[15] See the article "Exports and prices of some products", *Economic Bulletin for Latin America*, vol. I No. 2, Santiago, Chile, September 1956, pp. 62-63.

Figure VI

PRICE OF PRIMARY COMMODITIES
SUGAR - WHEAT
(Dollar cents per pound)
Semi-logarithmic scale



[a]) Sales outside the International Agreement.

lished by the International Agreement of 1953 (see figure VI), considerable increases were registered in the last two months of 1956, partly as a result of stockpiling following the international tension caused by events in the Middle East. But this was not the only factor determining the change in the world sugar market situation. An upward movement in Europe's import requirements had been observable since 1955, when they had amounted to 4.7 million pounds as against 4.3 million in 1954. Between the same two years, the Soviet Union's total imports rose from approximately 200,000 to 700,000 tons. Aggregate world sugar imports in 1955 were about 800,000 tons higher than in 1954. The fact that in spite of this no rise in prices took place, was undoubtedly attributable to the large surpluses accumulated by Cuba in previous years. In fact, Cuba's surpluses amounted to 2.3 million tons at the end of 1952, and still stood at 1.7 million tons at the end of 1955, despite the substantial expansion of exports in the latter year. In contrast, by the close of 1956 sugar stocks had fallen to only 700,000 tons.

This heavy reduction in Cuba's sugar surpluses constitutes the most important factor in the current market situation. The political crisis in the Middle East did no more than accentuate the characteristic features of a process which had been taking shape since the beginning of 1956, although it was not until the year had alm ended that it found expression in substantial price creases.

The marked increment in Cuba's exports[16] throws in relief the radical change in the world market situation sugar, both in the United States preferential zone and the free market area.[17] Since the entry into force of International Agreement and despite the measures restrict production adopted by Cuba, the basic quo fixed for the free market had to be cut down from time time by as much as 20 per cent. They were reduced b further 10 per cent in the first half of 1956. Only at end of July did the Council administering the Agreeme raise its estimates of free market requirements, increasi the total basic quotas by 500,000 tons—i.e., from 4.5 5 million tons—while at the same time cancelling previous reductions.[18]

The position of other Latin American countries in sugar export trade during 1956 was not as favourable that of Cuba or of the Dominican Republic.[19] Peru, whi has traditionally held third place among Latin Americ sugar exporters, registered a slightly smaller volume exports than in 1955. Production in Brazil, whose e portable surpluses had been fairly substantial in rece years,[20] declined considerably. The consequent shortag in some of Brazil's own consumer centres led to a sha contraction of its exports in 1956. In fact, during the fi nine months of the year its sales abroad amounted to or 14,500 tons. Those of Mexico, whose share in Lat American exports is very limited, also underwent marked decline.

4. WHEAT

Despite certain similarities between the respecti world market situations of wheat and cotton, traceable the heavy pressure exerted by the United States' accum lated surpluses and to its sales policy innovations respect of both products, there are radical differences which other factors account. In the first place, t operation of the International Wheat Agreement has pr vided a certain basis of stability for almost one-third the world's wheat transactions. Secondly, bad weat conditions reduced harvests in 1956 in some Europe countries and in Argentina. Lastly, the innovation intr duced by the United States in its wheat exports policy not consist—as in the case of cotton—of a cut in pri orce competition, but of a new method of paying the sidies which had for some time been granted to exports cted under the International Agreement.[21]

---

[16] This increment amounted to 900,000 tons in the first months of 1956 in relation to the same period in 1955, thus rep senting an increase of 23 per cent.

[17] The world sugar market is divided into three main areas: preferential zone of the British Commonwealth; the preferent zone of the United States which has special customs tariffs fo specific quota of imports, mainly from Cuba; and the free mar area, which covers all exports outside these preferential zon The 1953 International Agreement, which was renewed in Nove ber 1956, governs only exports to the free market.

[18] It is worth mentioning here that some of the countr parties to the Agreement—Cuba and the Dominican Republic, Latin America—witnessed a substantial rise in their basic exp quotas, not only on account of the greater requirements of the f market, but also because of the redistribution of quotas origina assigned to other countries which declared that they were not i position to fill them.

[19] Exports from the Dominican Republic were 5 per cent hig in 1956 than in 1955.

[20] Brazil's exports amounted to 573,000 tons in 1955.

hese differences largely explain why the United States plus disposal policy was less severely criticized in the of wheat than in that of cotton.[22] The most import- factor in the evolution of the market was undoubtedly severe winter which affected harvests in almost all principal European countries, and, apart from in- sing the import requirements of many of them, sub- tially reduced France's exportable surplus.[23]

o the extra demand of the West European countries added that of some parts of Eastern Europe, especially and, as there was also a considerable falling-off in the eat output of the Danube Basin.

hese conditions resulted in a large volume of exports n the United States, Canada and Australia, which nt that for the first time in the last four years there no substantial increase in United States stocks. ile small increments were registered in the stocks of ada and Australia,[24] they were adequately compen- d by the drop in Argentina's exportable surplus. the aggregate, the wheat stocks of the four countries ntioned rose by only 127,000 tons between 1 July 1955 1 July 1956, a negligible amount in comparison with increment of 1.3 million tons between 1954 and 1955 of almost 15 million in each of the two preceding years. hould further be noted that prices for wheat exported side the International Agreement remained practically hanged (see figure VI).

s has just been pointed out, bad weather conditions stantially reduced Argentina's last harvest. Conse- ntly, its exports in 1956 reached only 2.5 million tons, 0 per cent less than in 1955, when they had amounted .6 million tons. As far as is known, Uruguayan exports ained at approximately the same levels as in the first en months of 1955, with a volume of 262,000 tons.

5. COTTON

robably no other primary commodity exported by in America has had to face such keen market compe- on as cotton in recent years. In the first place, the United States sales policy meant the disappearance a factor which had maintained world market prices at level of the prices guaranteed to United States pro- ers on their own market. Secondly, the aim of this icy was to regain for United States exports a specific re in the world market, estimated at approximately 5 million bales yearly.[25] Moreover, United States exporters were placed at a competitive advantage, inasmuch as some of their foreign customers were able to benefit under the terms of the surplus disposal Act (No. 480).[26]

With a view to competing in the world market on favourable terms, the United States initiated its cotton surplus sales policy by auctioning this commodity at prices some 25 per cent lower than those prevailing on its domestic market. Before the year ended, export sales were already approaching the target fixed, and they are likely to exceed it by the end of the current trade year, i.e., in July 1957. If the forecast is fulfilled—and the rate of recent exports suggests that this is likely—the United States will have attained its principal objective, which is to avoid the continued expansion of its accumulated cotton surpluses. Thus, the United States surplus policy was the preponderant factor on the world cotton market during 1956. How this policy influenced the volume of Latin American exports, and what measures were adopted by the region's principal exporters to mitigate or offset its effects, are the questions which now require examination. In the first place, the price aspect must be considered. As was inevitable, the lower export price of United States cotton brought down the price of the commodity in Latin America. Quotations on the Liverpool market reflected this reduction, which was less than that registered in the United States export price simply because prices for Latin American cotton had begun to decline as from the end of 1955, as a result of the sale of one million bales of short-fibre cotton from United States stocks. On the other hand, the fall in prices was confined to short and medium fibre grades; quotations for long and extra-long fibre cottons, including some varieties produced in Peru, were not only unaffected by this decrease, but actually displayed an upward trend during the year (see figure VII on p. 26).

As regards the volume of exports, it is important to note that no decline was recorded among Latin America's leading exporters. This was partly because shipments of the cotton exports sold by the United States at lower prices began only in August, so that during the first seven months of the year the Latin American countries were still the immediate suppliers of consumer requirements. Furthermore, Mexico introduced a sales system whereby imports of motor vehicle parts were made contingent upon the sale of given quantities of its exportable surplus of cotton, while at the same time it lowered export duties on this fibre. The quantities available for export in Brazil were perceptibly reduced by a poor harvest. Peru enjoyed a wide market because of the shortage of Egyptian-type cotton. To all this was added the gradual but steady revival of world cotton consumption. In fact, cotton seems to be recovering part of the ground lost to artificial fibres. Mexico's cotton exports, which had been 350,000 tons in 1955, amounted to 400,000 tons in 1956, thus increasing by 13 per cent; those of Peru rose to 78,000 tons in January-September, as against 54,000 tons during

---

As from 4 September 1956, the cash subsidies which used to paid to exporters will be replaced by equivalent quantities of at out of Commodity Credit Corporation (CCC) stocks. eat thus received can then be exported.

The surplus disposal operations negotiated with India and zil, and covering relatively large quantities over a period of e years, have been sharply criticized in Australia and Canada, ch have been suppliers to the former countries and which con- r certain clauses in the contracts concerned prejudicial to their ition as exporters. (See the relevant report in the specialized lication *Corn Trade News*, Liverpool, 16 October 1956.) Argen- and Uruguay openly objected to the United States contract n Brazil, as it seriously affected their position as traditional pliers of the Brazilian market.

As is common knowledge, France is the largest net exporter Western Europe.

As of 1 July 1956.

[25] Exports in 1955/56 (August to July) were only 2.2 million bales, and 3.8 million bales in 1954/55.

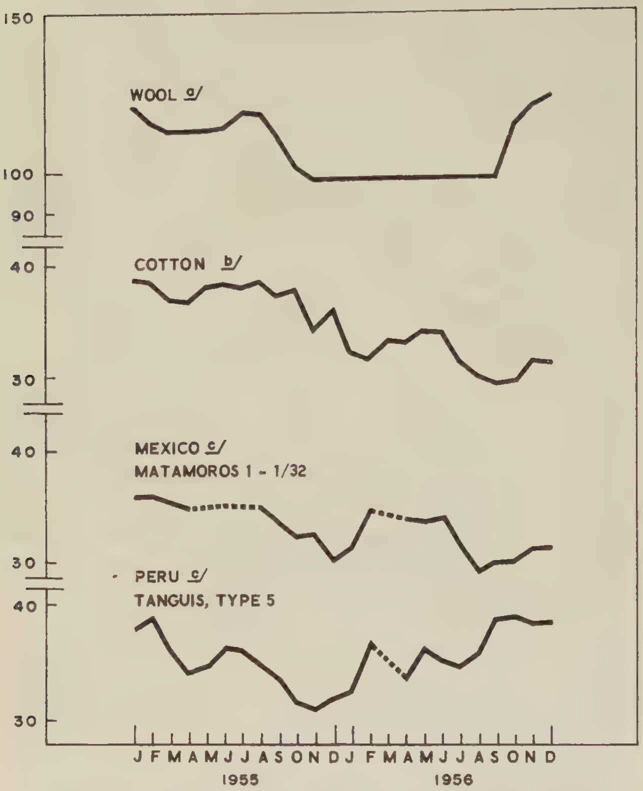
[26] Title I of this Act authorizes exports of surplus farm products, payable in the currency of the purchaser country. Most of the foreign exchange accruing to the United States from this source is utilized for long-term loans to the countries concerned.

Figure VII

PRICE OF PRIMARY COMMODITIES
WOOL - COTTON

(Dollar cents per pound)

Semi-logarithmic scale



[a] Boston, United States (Uruguayan wool), clean basis.

[b] United Kingdom, American middling 15/16″.

[c] Local market prices, including export duties.

the same period of 1955, which represented an increment of 44 per cent; while those of Brazil declined by 5 per cent during the first nine months of 1956, because the smaller harvest led to a suspension of exports at the beginning of the year.

6. Wool

As in the case of sugar, in the pattern of the world market for wool a marked contrast was to be noted during the greater part of 1956 between the development of the principal world producers' export trade and that of prices; whereas the former registered higher figures than in the preceding period, the latter remained considerably lower than in 1955 (see figure VII). The first signs that prices were beginning to improve appeared in September 1956, when Australia was selling the new clip. Subsequently, the international tension towards the close of the year strengthened the rising trend of prices, which remained, however, at levels slightly lower than those prevailing in the early months of 1955. A further important factor in this upward movement of prices at the end of 1956 was a 9 per cent increment in the total wool consumption of the chief manufacturing countries during the first nine months of the year, in relation to the same period in 195

Although conditions on the international wool ma were not very favourable during most of the year, exp from Argentina and Uruguay were higher in 1956 tha 1955, mainly on account of the measures to promote ports adopted by these two countries as from the clos the latter year. Between September 1955 and June 1 Uruguay granted an exchange subsidy in respect exports of greasy wool and wool tops. Sales abroad w exceptionally large during the first half of 1956, although they declined in the months which followed, total for the year as a whole exceeded the 1955 fig A similar phenomenon was registered in Argentina consequence of the devaluation of the currency decree the end of 1955. The exchange rate applicable to w exports was raised to 13.50 pesos to the dollar,[28] t enabling them to compete in the world market on adv tageous terms.[29] Consequently, the volume exported 1956 exceeded that of 1955 by about 3 per cent a according to information received, stocks at the end the season were the lowest in recent years. Furtherm it should be noted that the remarkable improvement prices on Argentina's local markets checked the downw trend in the country's wool production which had b observed in recent years. Estimates for the 1957 sea suggest that the relevant figures will be higher than 1956.

7. Copper

Within the brief space of the last two years copper p fluctuations on the world market have described a circle. After a phase of rapid and constant increa between January 1955 and February 1956, they embar upon a downward trend which lasted until the ea months of 1957, when the prices in question reached lev very similar to those prevailing at the end of 1954[30] (

---

[27] According to estimates prepared by the International W Secretariat and reproduced in *Foreign crops and markets*, December 1956.

[28] Until then it had been 6.25 pesos to the dollar.

[29] The more favourable exchange treatment accorded to w exports consisted not only in the raising of the exchange rate, also in the authorization of the sale on the free market (at ra more than twice as high as those in force in the official market foreign exchange earnings over and above the official base val established for the various types of wool. The marked incre in domestic market prices—strengthened at the end of the y by higher price levels abroad—induced the Government to ra the official base values in October 1956, thus reducing the p portion of foreign exchange which exporters could sell on the f market.

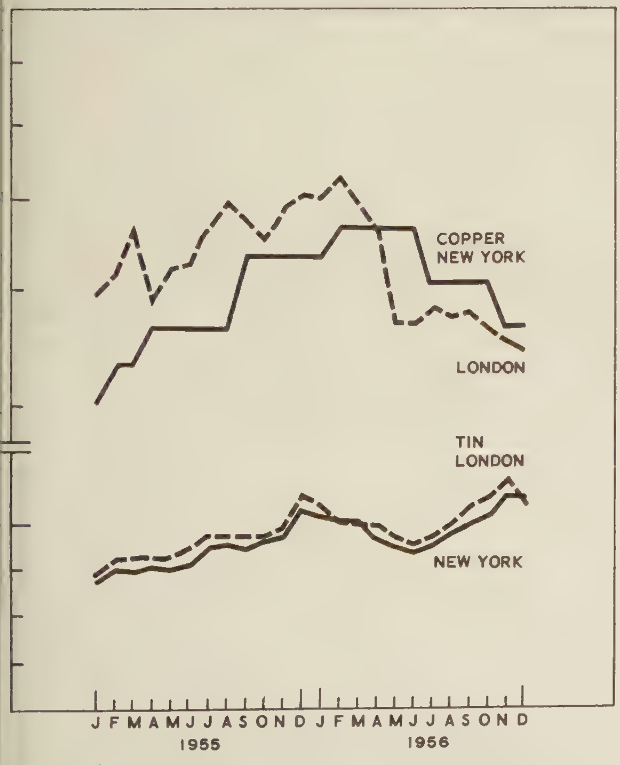
[30] When annual price averages on the two most import markets—London and New York—are compared, a substan difference is observed. On the New York market the avera price was 37.3 dollar cents per pound in 1955 and 42.6 in 19 which implies a 14 per cent increase in the latter year. In Lond the average price in 1955 was 44.5 dollar cents per pound, while 1956 it fell by 8 per cent, to 41 dollar cents. The reason is to found in the divergent rates at which the two price levels follow the successive upward and downward trends on the two marke New York prices on the whole reacted more slowly, and with certain time-lag in relation to prices in London. This is und standable, moreover, if it is recalled that prices in New York mainly determined by the large United States producer ent prises, whereas in London they are more sensitive to changes immediate availabilities, since this latter is in the main an int mediaries' market.

re VIII). The two phases of this process can be ac-
nted for by the changes in the supply-demand ratio
ing the two years mentioned. The high level of
istrial activity in Europe and the United States during
5 led to a progressive expansion of the demand for
per, production of which during the two preceding
rs had remained practically stationary at about 2.5
ion tons. The impetus given to world copper produc-
in 1955 by this additional demand raised the total
put in that year to rather more than 2.7 million tons.
this increase in production was followed in 1956 by a
lerate recession in such important consumer industries
for example, motor vehicles and construction in the
ted States. Thus copper prices in 1956 were affected
he twofold impact of the decline in demand on the one
d and, on the other, a volume of production which
tinued to expand at the same high rate as in 1955.[31]

he most recent price decreases seem to be linked to the
pect of a falling-off in Europe's demand for copper, on
ount of the contraction of industrial activity brought
ut in some European countries by the fuel supply crisis.

opper production and exports during 1956 were main-
ned at levels above those of 1955 in the Latin American
ntries. The most significant expansion took place in
u—which holds the third place among Latin America's
ducers and exporters—and amounted to 15 per cent between the two years mentioned. In Chile the volume of exports in the first nine months of 1956 was 4 per cent greater than during the same period in 1955. Production likewise registered a slight expansion of 5 per cent. The situation was similar in Mexico, although the increment in exports was smaller, amounting only to 3 per cent between 1955 and 1956.

Figure VIII
PRICE OF PRIMARY COMMODITIES
COPPER - TIN
(Dollar cents per pound)
Semi-logarithmic scale



8. Tin

In recent years the world tin market has been especially influenced by the excess of world production over consumption. Although the market has been relieved of a large proportion of these surpluses, thanks to stockpiling of strategic reserves in the United States, prices have been definitely declining since 1951, reaching their lowest level between the end of 1953 and the beginning of 1954. In the subsequent period, up to the end of 1955, prices showed a moderate upward trend; important determining factors were a slight increment in consumption, and the completion of negotiations for an International Tin Agreement, the signatories being the chief producer countries and some of the principal consumers, excluding the United States.[32]

The decline in world consumption during the first nine months of 1956, when it was 15 per cent lower than in the corresponding period in 1955, once again exerted a depressive influence on the market, and between December 1955 and June 1956 New York prices dropped by 12 per cent. Yet the political crisis brought about by the nationalization of the Suez Canal checked the fall in prices, which, during the second half of 1956, regained all the ground lost in the preceding six months and reached by the end of 1956 a peak level for the last three years [33] (see figure VIII).

Despite the fact that world tin consumption was lower in 1956 than in 1955, this does not seem to have been the basic cause of the contraction registered during the first nine months of 1956 in the volume of Bolivia's tin exports, which was 7 per cent less than in the corresponding period of 1955. In fact, production and exports of Bolivian tin have been steadily falling since 1954, as the result of a combination of factors, among which must be included the working of lower grade ores, the lack of investment to improve mining techniques, the rise in production costs brought about by inflation and various others related in general with the administration of the nationalized mines.[34]

During the first nine months of 1956 the world copper output
higher by 200,000 tons or 10 per cent, than during the same
od in 1955, when it had risen again by 200,000 tons (11 per
) above that of the first nine months of 1954.

[32] The Agreement established minimum and maximum price levels and fixed for each of the member countries specific contributions (in currency or metal) with which a buffer stock will be constituted, to operate through buying and selling on the market whenever prices fall below or rise above the minimum or maximum levels agreed upon.

[33] It should, however, be noted that part of this rise in prices is only a reflection of the higher freight costs resulting from the closing of the Suez Canal. Moreover, the strengthening of the market was a very short-lived process, and by the beginning of 1957 prices had lost part of the ground gained in the last few months of 1956.

[34] These problems have been studied by a technical assistance mission contracted by the Government of Bolivia. Some of the mission's recommendations (those connected with the reorganization of the *Corporación Minera*, which administers the nationalized mines) were adopted and put into effect by the Government in August 1956.

9. PETROLEUM.[35]

On no other primary commodity in international trade did the political crisis in the Middle East exert so manifest an influence as on petroleum. During the past two years the countries of that area had contributed 21 per cent of the world's output, but, more important still, they had also constituted the principal source of supply for most of the crude petroleum requirements of Western Europe, the greater part of which are shipped through the Suez Canal. Consequently, the blocking of this sea route, and the damage done to the pipelines in certain countries of the region seriously affected the normal flow of Europe's oil supplies from the Middle East, with two important results: an over-all rise in world market prices and an increase in shipments to Europe from the United States and the Caribbean area of Latin America (mainly Venezuela).

The general world market level of crude petroleum prices has remained stable since June 1953. Nevertheless, during 1955 and 1956 slight price fluctuations were recorded for certain grades of crude oil exported by Venezuela, as well as for some petroleum derivatives. However, there was no over-all increase until mid-January 1957, when prices rose by approximately 9-11 per cent. This did not equal the increment in the prices of cr
petroleum from the United States (coast of the Gul
Mexico), which was in the neighbourhood of 12
cent.[36]

World production of crude petroleum has steadily
panded in the last few years. In 1955 it was 11.2 per c
higher than in the preceding year, and in 1956 agai
rose 8.5 per cent above the 1955 level. The annual rat
growth of Venezuela's output was higher still, reach
12 per cent in 1955 and 14.5 per cent in 1956 in relatio
each of the preceding years. The expansion of exp
attained similar proportions. Shipments of crude pe
leum and derivatives were respectively 13 and 11 per c
higher in the first ten months of 1956 than in the cor
ponding period of 1955. In view of the rapid increas
Venezuela's production,[37] the total increment in exp
in 1956 may prove to exceed these percentages.

Although in the other Latin American countries
production of crude petroleum increased on an aver
by 6 per cent in 1956 in relation to 1955, only Colomb
exports expanded substantially in the year under revi
exceeding their 1955 level by about 18 per cent.

---

[35] For fuller details, especially in relation to the effects of the Middle East crisis on petroleum supplies in some Latin American countries, see the special annex to this chapter.

[36] As regards shipments of crude petroleum from the Caribb
area (mainly from Venezuela to Europe), in January 1957 th
were 9 per cent above the average for the fourth quarter of 1
and by February this increment had already risen to 25 per c

[37] In October 1956 the average reached was 2.5 million bar
daily, and by December it had already risen to 2.7 million bar
daily.

Annex

THE IMPACT OF THE CRISIS IN THE MIDDLE EAST ON SOUTH AMERICA'S SUPPLIES OF PETROLEUM AND ITS DERIVATIVES

1. SOUTH AMERICA'S SUPPLIES OF PETROLEUM AND ITS DERIVATIVES

ve of the ten South American countries (Argentina, Brazil, , Paraguay and Uruguay) are net importers of petroleum and erivatives,[1] and are highly dependent upon such imports, h in 1955 represented from 57 to 100 per cent of their total stic consumption (see table I). This dependence becomes more evident if it is borne in mind that, in the five countries whole, petroleum derivatives account for a major share of total consumption of energy.[2] Consequently, a breakdown duction in normal supplies of these imported commodities may usly affect the economic activity of the countries concerned.

In addition, imports of petroleum and its derivatives strongly influence the economy of the South American countries because of their effect on the balance of payments. Liquid fuels are the principal commodities imported by both Argentina and Brazil. The value of these fuels, which in both cases already exceeds 200 million dollars yearly, is definitely following a steady upward trend and represents a high and rapidly increasing percentage of total imports; between 1950 and 1956 the proportion rose from 13.8 to over 18 per cent in the case of Argentina, and from 12.9 to more than 20 per cent in that of Brazil, excluding imports of derivatives other than fuels (see table II). Although less in both absolute and relative terms, Chile's, Paraguay's and Uruguay's imports of petroleum and its derivatives absorb about 10 per cent of the foreign exchange used for purchase abroad.[3] It can thus be

---

ll the countries in the northern zone of Latin America, with xception of Mexico, are net importers. Their consumption, ed almost entirely by imports, can be estimated at some lion tons annually, of which 2 million represent the share of . Cuba is the only country to import crude petroleum in large quantities, amounting to approximately 500,000 tons y.

n 1954 the percentage share of petroleum derivatives in total y consumption was 61.3 per cent in Argentina, 30.9 in Brazil, oximately 35 per cent in Chile and 72 per cent in Uruguay.

[3] Although Paraguay is obliged to import all the petroleum derivatives it needs because it neither produces crude nor possesses facilities for refining, the volume of these imports is much smaller in absolute terms than in the case of the other four countries, as its consumption is relatively low. The same applies to the other Latin American countries which have to import petroleum, that is, those of the Central American and Caribbean area, with the exception of Cuba, as already pointed out.

Table I. Latin America: Supplies of petroleum and its derivatives in selected countries, 1955

(Volume in thousands of cubic metres, and percentage relationships)

Country	*Production of crude petroleum*	*Refining*	*Percentage refined on basis of imported crude*	*Consumption of derivatives*	*Imports of crude and derivatives* [a]
Argentina	4,850	9,500	48	11,100	57
Brazil	321	4,090	93	10,279	97
Chile	410	760	45	2,046	80
Uruguay	—	1,350 [b]	100	1,509	100
Paraguay	—	—	—	58	100

Source: Country statistics.

[a] As a percentage of total consumption.

[b] Estimate.

Table II. South America: Imports of petroleum and fuel derivatives as percentages of total imports and supplies for selected countries

Country	*Imports of petroleum and fuel derivatives as percentage of total value of imports* [a]				*Value of imports of petroleum and fuel derivatives in 1956 (Millions of dollars)*
	1950	*1954*	*1955*	*1956* [c]	
Argentina	13.8	15.4	15.3	18.1	201.1
Brazil [b]	12.9	13.7	17.6	20.4	247.2 [c]
Chile	10.1	12.7	11.6	8.9	31.4 [d]
Paraguay	...	...	...	10.0	2.5
Uruguay	5.5	7.8	10.9	...	...

Source: Country statistics.

[a] Excluding derivatives other than fuels (lubricants, etc.). The value of these imports is high in some countries, for example, in Brazil, where imports of lubricants amount to some 30 million dollars annually.

[b] Excluding liquid gas, imports of which are valued at about 5 million dollars annually.

[c] On the basis of provisional data.

[d] Annual estimate based on data for eleven months.

inferred that any marked variation in prices and freight charges, or in the type of foreign currency used for the payment of petroleum and its derivatives, produces major repercussions on the balance of payments of the countries concerned, especially Argentina and Brazil, as well as on their capacity to import other commodities. In view of the essential nature of fuel supplies and the chronic inadequacy of these countries' capacity to import, it is needless to stress the importance of the problem.

The crisis in the Middle East led, at the end of October 1956, to the closing of the Suez Canal and of one of the pipelines used for conveying petroleum from the Persian Gulf area to the Mediterranean.[4] Although this did not affect the routes by which the petroleum imports of the South American countries are normally carried, it constituted a serious threat to their supplies for re which will be given below;[5] and for the moment the crisis ha adverse effects of varying intensity on the balance of paymen the countries under review, especially Argentina, throug influence on petroleum prices and freight charges.

2. VOLUME AND SOURCE OF SOUTH AMERICAN IMPORTS OF P LEUM AND ITS DERIVATIVES

In 1956, the aggregate volume of petroleum and fuel deriva imported by Argentina, Brazil, Chile and Uruguay represe rather more than 20 million tons,[6] of which Argentina's Brazil's imports constituted about 88 per cent. Crude oil (a 210,000 barrels daily) accounted for almost 11 million tons c

---

[4] The closed pipeline really comprises a system of three parallel pipelines running from Iraq to the Mediterranean.

[5] See especially point 3.

[6] Equivalent to some 56,000 tons (or about 390,000 barrels) c

Table III. South America: Volume and source of imports of petroleum and fuel derivatives in selected countries, 1956

(Volume in thousands of tons, and percentage relationship)

Importer country and source of imports	*Crude petroleum*	*Fuel oil*	*Other fuel derivatives* [a]	*Total*
Argentina				
Volume (thousands of tons)	*4,267.2*	*3,194.3*	*655.5*	*8,117.1*
Percentage distribution by main sources:				
From Venezuela	57.1	15.3	13.3	37.1
From the Netherlands Antilles and British West Indies	—	83.9	54.7	37.4
From the Middle East (Kuwait) .	37.1	0.2	2.7	19.7
Brazil [b]				
Volume (thousands of tons)	*5,038.4*	*1,845.5*	*2,589.3*	*9,473.2*
Percentage distribution by main sources:				
From Venezuela	51.9	58.5	44.2	51.5
From the Netherlands Antilles and British West Indies	1.7	39.0	52.3	22.8
From the Middle East (Kuwait and Saudi Arabia)	46.1	—	—	24.5
Uruguay [c]				
Volume (thousands of tons) [d]	*1,187.1*	*136.9*	*112.8*	*1,436.7*
Percentage distribution by main sources:				
From Venezuela	52.6	. . .	. . .	. . .
From the Netherlands Antilles and British West Indies	. . .	. . .	. . .	. . .
From the Middle East (Saudi Arabia)	6.0	. . .	. . .	. . .
Chile [e]				
Volume (thousands of tons)	460.8	385.5	372.6	1,219.0
Percentage distribution by main sources:				
From Venezuela	100.0	. . .	. . .	. . .
From the American Continent [e] .	100.0	100.0	100.0	100.0
Total for the four countries				
Volume (thousands of tons)	*10,953.5*	*5,562.2*	*3,730.2*	*20,246.0*
Percentage distribution by main sources:				
From Venezuela	56.0	. . .	. . .	. . .
From the Middle East	36.3	. . .	. . .	. . .

Source: Argentina: data supplied by the *Dirección Nacional de Energía*; Brazil: data supplied by the *Serviço de Estadistica Economica e Finanzeira do Ministerio da Fazenda*; Uruguay: data supplied by ANCAP and foreign trade statistics; Chile: data supplied by ENAP and foreign trade statistics.

[a] Petrol, paraffin, gas oil and diesel oil. Excluding liquid gas.

[b] Annual figures and percentages estimated on the basis of data for nine months.

[c] Annual figures calculated on the basis of data for eleven months.

[d] The break-down of Uruguay's imports of crude by sources is approximate, having been estimated on the basis of percentages for previous years. According to these, 12.6 per cent of imports of crudes came from Latin American countries other than Venezuela.

[e] Chile's imports of crude, effected solely by ENAP, come entirely from Venezuela. Imports of derivatives come from Venezuela, the Netherlands Antilles, the British West Indies and Peru and, in smaller quantities, from Bolivia and the United States, but in no case from outside the American Continent.

volume, residual fuel oil for some 5.6 million and other fuel atives, viz. petrol, paraffin (kerosene), diesel oil, gas oil and ed fuel oil[7] for the remainder (see table III).

regards the source of imports, it should be noted that they almost entirely from Venezuela, from the Netherlands es, the British West Indies (Trinidad) and the Middle East, be seen in table III. But while Venezuela exports both oil and derivatives, supplies from the Antilles and the West are virtually confined to derivatives, and those from the e East to crude oil. Of the 11 million tons of crude imported gentina, Brazil, Chile and Uruguay in 1956, 56 per cent (or more than 6.1 million tons) came from Venezuela, and per cent (or about 4 million tons) from the Middle East. this latter region (entirely from Kuwait) Argentina obtained per cent of its imports of crude in 1956, Brazil 46.1 per cent Kuwait and on a smaller scale from Saudi Arabia) and uay an estimated proportion of 6 per cent (from Saudi a). The aggregate volume of crude petroleum imported the Middle East by the three Latin American countries on the Atlantic seaboard totalled about 72,000 barrels daily in Chile obtained its imports of crude entirely from Venezuela.[8]

FECTS OF THE CRISIS IN THE MIDDLE EAST ON SUPPLIES AND COSTS OF PETROLEUM AND ITS DERIVATIVES

closing of the Suez Canal and of the pipeline from Iraq to the erranean, while most directly and seriously affecting e's petroleum supplies, was not without its repercussions from one point of view very marked repercussions—on ies of petroleum and its derivatives for the importer countries uth America.[9] These repercussions may be divided into the ying two groups: effects on the supplies themselves (their e and source), and effects on the cost of the commodities rned (prices and freight charges).

difficulties in supplying petroleum to Europe (and, in- ly, to other regions) created by the critical situation in the e East were basically a problem of transport, not of short ies.[10] In fact, the closing of the Suez Canal and of the pipeline from Iraq to the Mediterranean meant the blockage of two routes by which about 177 million barrels daily were normally transported from the Middle East to Europe and North Africa and the rerouting of this traffic via the Cape of Good Hope, a much longer and therefore much more time-consuming itinerary. As in addition about 425,000 barrels daily had to be transported by sea instead of by the closed pipeline as before, the most urgent problem was the lack of sufficient tankers to perform this task.

The actual purpose of the measures adopted to relieve this situation as far as possible was to make the most efficient use of the tankers available. They consisted in considerably increasing supplies to Europe from the United States and the Caribbean, since the distance is shorter from these areas than from the Middle East via the Cape of Good Hope, and in changing the routes of some of the tankers plying between the Persian Gulf and the Caribbean, on the one hand, and Europe and the South Atlantic coast of Latin America on the other. The changes were as follows. Tankers returning from Europe or the Mediterranean to the Persian Gulf are now sent to the Caribbean to take on crude and derivatives for Argentina, Brazil and Uruguay, and then continue in ballast to the Persian Gulf. Alternatively, crude oil is taken from the Persian Gulf to the South American countries mentioned, and the tankers then go on to the Caribbean to take on petroleum and derivatives for Europe and the Mediterranean.[11] Thus Europe was kept supplied with about 90 per cent of its normal petroleum requirements during November and December 1956 and January 1957; for although shipments from the Middle East via the Cape of Good Hope only amounted on an average to some 850,000 barrels daily during those months (i.e., 50 per cent of the volume normally transported by the two blocked routes), shipments to Europe from the Western Hemisphere increased from 700,000 to 1,325,000 barrels daily.[12]

As can be seen, these measures not only called for a considerable expansion of the petroleum output and exports of the two principal American suppliers—the United States and Venezuela—[13] but also involved the diversion to Western Europe of some of the petroleum usually carried from the Caribbean area to the countries on the Atlantic seaboard of South America, and its replacement by petroleum from the Persian Gulf. Although this might lead to a temporary shortage of certain products, it was not expected to affect the South American countries' normal supplies, which would be safeguarded by reorganizing the itineraries of the tankers. Chile's supplies were considered unlikely to be seriously modified since it could continue to draw upon its usual sources in the Caribbean area and other countries on the western coast of South America.

---

he structure of these imports has changed considerably g the past three years, since the share of crude petroleum creased to a very marked extent, and that of fuel oil has also although in much lesser degree, whereas a drastic reduction aken place in that of petrol. The replacement of imports of derivatives by crude oil was a consequence of the substantial se in the refining capacity of these countries in 1954 and especially in Brazil and Chile, which up to 1954 imported or no crude petroleum. Consumption of fuel oil, which nts for about 50 per cent of the aggregate consumption of fuels of the countries under review (as well as of Latin ica as a whole), is increasing more rapidly than that of other This does not apply to production, because of the concen- n of effort on the obtaining of light derivatives of greater mic value.

n 1955, Chile imported some 110,000 tons of crude from a for test operations at the Concón refinery, which is designed ndle "bitter" crudes, i.e., those with a high sulphur content, as in fact characterizes most of the crudes produced in the le East, but for various reasons, including the higher freight of transport from that area, the idea of utilizing this type abandoned.

lthough the present analysis refers mainly or exclusively to ituation created by the Middle East crisis with regard to ies for Argentina, Brazil, Chile and Uruguay, the conclusions ed, especially with respect to prices and freight charges, hold for the other Latin American countries which have to import leum, i.e., Paraguay, the Central American republics and of the Caribbean area.

At the time of the closing of the Suez Canal, consumption of leum in Europe and North Africa amounted to some 3.1 n barrels daily, of which 2 million came from the Middle East 000 via the pipelines and 1,250,000 through Suez), about 00 from the Western Hemisphere, and 400,000 from their own ction and imports from Eastern Europe and the Soviet Union *The New York Times*, 18 February 1957).

[11] Regular petroleum supply routes from the Persian Gulf and the eastern Mediterranean to the east coast of the United States and Canada were also affected, the supplies involved being sent to Europe and replaced by petroleum from the Western Hemisphere.

[12] According to unofficial data, during the months in question Europe's total petroleum supplies apparently averaged 2.9 million barrels daily, or about 88 per cent of its estimated normal requirements of 3.3 million barrels (including increased consumption). The utilization of stocks, some degree of rationing and the extremely mild winter which Europe enjoyed also helped to relieve the serious shortages which had originally been feared.

[13] According to the American Petroleum Institute and other sources, production in the United States increased from approximately 7 million barrels of crude daily at the end of October 1956 to rather more than 7.4 million in January 1957; and that of Venezuela from some 2.5 to nearly 2.8 million barrels by the end of January. This represents a total increment of about 700,000 barrels daily in the output of these two countries. It should be pointed out that the problem of effecting extra shipments of the size demanded by the crisis was not confined in these countries to the expansion of their production; it was complicated on the one hand by the inadequate transport facilities (pipelines, etc.) available for conveying this larger output to the terminals, and on the other by the fact that the bulk of the European deficit was crude oil and heavy derivatives (especially distilled fuel oil, used for heating), while there was a relative surplus of petrol.

Table IV. South America: Shipments of petroleum and derivatives from the Caribbean area and the Persian Gulf at the end of 1956 and beginning of 1957

(Average volume in thousands of barrels daily)

Product and date	*To the east coast of South America* [a]			*To Chile*	*Total to the west coast of South America* [b]
	From the Caribbean area [c]	*From the Persian Gulf*	*Total*	*From the Caribbean area* [c]	
Crude petroleum					
4th quarter of 1956	120	...	...	9	9
December 1956	130	89	219	26	26
January 1957	130	50	180	10	10
February 1957	171	53	224	16	16
March 1957 [d]	176	...	...	8	8
1st quarter of 1957 [d]	159	...	...	11	11
Derivatives					
4th quarter of 1956	152	...	...	...	28
December 1956	135	6	141	18	22
January 1957	105	28	133	14	22
February 1957	117	23	140	16	16
March 1957 [d]	119	...	...	...	6
1st quarter of 1957 [d]	114	...	...	...	15

Source: United States Department of the Interior, on the basis of data supplied by the companies.

[a] Argentina, Brazil, Paraguay and Uruguay.

[b] Chile, Peru, Ecuador and Colombia.

[c] Venezuela, Netherlands Antilles, Trinidad and Colombia. Including also some smaller shipments from the Gulf of Mexico area of the United States to Brazil and Peru.

[d] Estimate.

All the available data suggest that in fact supplies of petroleum and its derivatives for the importer countries of South America have been maintained without interruptions, delays or shortages worth mentioning. To judge from statistics on shipments of crude oil and derivatives from the Caribbean area and the Persian Gulf to the countries on the Atlantic coast of South America at the end of 1956 and the beginning of 1957, the latter continued to receive[14] 360,000 barrels daily of crude petroleum and derivatives, which is not far off the average volume of imports (367,000 barrels) registered for 1956 as a whole. It should be noted, however, that the respective proportions represented by crude oil and derivatives altered considerably during these months, the volume of the former increasing and that of the latter decreasing, as can be seen from table IV. Thus, while the average imports of these countries in 1956 amounted to some 200,000 barrels of crude petroleum daily and about 167,000 of derivatives, corresponding shipments in December 1956 and February 1957 averaged approximately 220,000 and 140,000 barrels daily respectively.

It is also worth observing that, although provision had been made for the partial substitution of petroleum from the Middle East for oil from the Caribbean in these countries' supplies in consequence of the changes in the routes followed by the tankers, the figures in table IV show that this actually happened in the case of derivatives,[15] but that the reverse took place with respect to crude petroleum. In fact, shipments from the Caribbean area substantially increased and those from the Middle East decreased; average figures for the latter were about 72,000 barrels daily in 1956, reaching 89,000 in December, and fell to 50,000 and 53,000 in January and February 1957 respectively.

Shipments of crude petroleum from the Caribbean area to Chile amounted to 26,000 barrels daily in December 1956.[16] Deriva also showed a certain upward trend, the average figure for the few months being somewhat higher than the daily averag 14,700 barrels recorded in 1956 (see table IV).

But if the crisis in the Middle East had no serious adverse ef on actual supplies of petroleum and its derivatives in the S American countries, the situation was different as regards the of these supplies, or, in other words, the repercussions of the on prices and freight charges for such products. Both these i increased more or less substantially, but so far as freight cha are concerned, the impact of this increment varied widely.

As was to be expected, prices rose in the area where the ex sion in demand was concentrated, that is, in the United States the Carribean. On the other hand, there was no increase in f.o.b. price (Persian Gulf) of petroleum from the Middle The upward movement started towards the beginning of Decem affecting first and most intensively such heavy liquid fuel distilled fuel oil and residual fuel oil, which were the produc which the deficit was most serious, as well as those types of c petroleum which contain a greater proportion of these, i.e., heavy crudes. Towards the end of January 1957 the increm had spread to the other crudes and derivatives, although smaller scale. Thus, light and medium Venezuelan crudes ros 9-11 per cent, while the price increase for heavy crudes was 16 per cent. As regards derivatives, the price increment marked for heavy fuels, ranging from 17 per cent in the cas distilled fuel oil to 21 per cent in that of residual fuel oil N and rather less for petrol and paraffin (kerosene), where it va from 10 to 13 per cent. In absolute terms, the price of c petroleum rose between 25 and 35 dollar cents per barrel (i.e. 1.75-2.45 dollars approximately per ton), while increases in price of derivatives ranged from 42 cents per barrel for petr 63 cents for distilled fuel oil (see table V).

---

[14] At least in December 1956 and January 1957. In the latter month the average figure fell to 313,000 barrels.

[15] This was because a much larger proportion of Argentina's imports of fuel oil came from the Persian Gulf.

[16] In the first quarter of 1957 such shipments have aver 11,000 barrels daily. In 1956 the average was 9,000.

Table V. Increase in prices of petroleum and derivatives during the Middle East crisis

(F.o.b. prices for shipments in the Caribbean area or the Gulf of Mexico)

Product	*Prices in dollars per barrel* [a]			*Increases between October & March* [b]	
	Beginning of October 1956	*Beginning of February 1957*	*Beginning of March 1957*	*Absolute (cents per barrel)*	*Percentage*
I. *Crude petroleum*					
(Representative Venezuelan crudes)					
Cumarebo, 48°-49.9°	3.40	3.75	3.75	35	10
San Joaquín, 40°-40.9°	3.04	3.37	3.37	33	11
Oficina, 35°-35.9°	3.80	3.05	3.05	25	9
Tía Juana, medium, 26.5°-26.9°	2.30	2.55	2.55	25	11
Lagunillas, heavy	2.05	2.38	2.38	33	17
Bachaquero, 16.5°-16.9°	1.90	2.23	2.23	33	16
II. *Fuel derivatives*					
Petrol, 87-octane	4.20	4.57	4.62	42	10
Paraffin, 41-43	3.99	4.51	...	52	13
Diesel oil [c]	4.10	4.35	...	25	6
Distilled fuel oil No. 2	3.67	4.20	4.30	63	17
Residual fuel oil No. 5	2.55	3.00	3.00	45	18
Residual fuel oil No. 6 (bunker C)	2.10	2.55	2.55	45	21

Source: Oil and Gas Journal and direct information.

Note: No increases were registered in prices of crudes from the Middle East, f.o.b. Persian Gulf ports.

[a] Barrel of 42 gallons. Average equivalents of a ton are (approximately) 7 barrels of crude petroleum, 8.5 of ordinary petrol, 7.8 of paraffin, gas oil or distilled fuel oil, or 6.66 of residual fuel oil.

[b] Except for paraffin and diesel oil, for which increases between October and February are shown.

[c] Prices in the United States proper.

se price increases were reflected in similar increments in the prices paid by the Latin American countries for imports from ribbean area. In the case of imports from the Middle East .b. price (Persian Gulf) remained stable, as was pointed out [17]

s, on the basis of the imports effected in 1956 by Argentina, , Chile and Uruguay, the rise in prices of petroleum and its tives caused by the crisis in the Middle East apparently s an additional annual expenditure which may be estimated 45 million dollars. To this must be added the incidence of ice increase on the increment in the volume of imports, will probably be in the neighbourhood of 10 per cent.[18]

regards freight charges, the sudden sharp increase in the d for tankers in order to maintain Europe's petroleum es by much longer routes produced a swift and steep rise in ates for freightage of petroleum. These were 100 per cent or more at the beginning of December 1956 than before the of the Suez Canal, and although the increment was afterwards reduced on some routes, early in February 1957 it was still 60 per cent on the route from the Netherlands Antilles to the north-east coast of the United States, 84 per cent on the route from the Netherlands Antilles to the United Kingdom, and 158 per cent on the route from the Persian Gulf to the United Kingdom (see table VI). Accurate data are not available on the increase in current prices for freight from the Caribbean or the Persian Gulf to the countries of the southern zone of Latin America, but information from various sources seems to suggest that this increment was in the neighbourhood of 100-200 per cent.

These increases represent extreme variations, and although they serve as very sensitive indicators of the short-term trend in the freight market, they are applicable only to particular shipments. The real variation in the freight charges payable by South American importers of petroleum is determined by the terms on which these latter contract for the transport of the product concerned. Thus, fluctuations in current freight charges have little or no immediate influence on the rates agreed upon in long-term contracts, since it is usually stipulated that these freight charges can be altered only if changes take place in the real costs of transport (that is, in day-wages payable on board, in the cost of bunker oil, etc.), regardless of fluctuations in the level of world market freight charges. This is the position as regards the imports of crude petroleum effected by the ENAP in Chile,[19] as well as the crude

---

ven in cases where imports are effected under long-term cts or agreements it is customary for the f.o.b. price stipu- o correspond to the current quotation for the product con- in the principal producer or exporter centres.

his estimate is based on the assumption that prices for eum and derivatives from the Caribbean area will be main- at the level reached early in March 1957, and that the tive shares of this area and of the Middle East in South ca's imports will remain approximately the same as in 1956. theless, a probable decline in these prices, although possibly gher level than before the crisis, may be forecast if European es of petroleum from the Middle East are restored to normal, his would remove or reduce the necessity of extra shipments he Western Hemisphere and the pressure on production and in that area. By mid-March 1957, a slight fall in prices has y been registered, with the partial rehabilitation of the pipe- om Iraq to the Mediterranean and subsequently of the Canal.

[19] These imports are covered by a contract valid until 1959, which also covers the transport of petroleum from Venezuela to the Chilean port of Quinteros. In this contract, signed at the end of 1954, freight charges on the route concerned were fixed at 4.05 dollars per long ton, or considerably below the normal or basic rates, for various reasons, of which the chief was the low level of freight charges at that time. It was agreed that this rate could be increased only if transport costs rose. Up to mid-March 1957 freight charges still stood at their original level, although it was considered likely that they would rise because of the higher price of fuel oil.

Table VI. Increases in selected petroleum freight spot rates during the Middle East crisis

Route	*Dollars per long ton*			*Increase between October 1956 and February 1957*	
	End of October 1956	*Beginning of December 1956*	*Beginning of February 1957*	*Absolute (Dollars per long ton)*	*Percentage*
From the Netherlands Antilles to the north-east coast of the United States	4.25	8.59	6.75	2.50	60
From the Netherlands Antilles to the United Kingdom	9.28	19.23	17.06	7.78	84
From the Persian Gulf to the United Kingdom (via Cape of Good Hope) .	18.46	47.07	47.60	29.14	158

Source: Oil and Gas Journal.

petroleum and derivatives imported into Brazil and Uruguay both by private companies and by the respective State petroleum agencies, PETROBRAS and ANCAP.[20] Apparently no variation, or at any rate none worth considering, took place in the freight charges agreed upon.

Furthermore, the private enterprises which import petroleum derivatives in Chile do so mainly through short-term freight contracts of three months' duration. The freight payable by one of these enterprises on cargo carried from Aruba (Netherlands Antilles) to the Chilean port of San Vicente rose from 8.61 dollars per long ton in the last quarter of 1956 to 10.28 dollars in the first quarter of 1957, that is, by 19.4 per cent.

In Argentina the large private enterprises import on the basis of long-term freight contracts; nevertheless, the freight charges paid rose from an arithmetical average of 6.92 dollars per metric ton in 1956 to 9.08 dollars per ton in January 1957, that is, by 31.2 per cent. The official petroleum organization (YPF) and some smaller importing firms, whose aggregate share of total imports of petroleum and derivatives in 1956 was rather more than 50 per cent, normally sign freight contracts for periods which hardly ever exceed six months. No data are available on the variations which may have been registered in the freight charges paid by these enterprises; but there is reason to believe that they have risen in at least the same proportion as those incurred by the large private enterprises, and in some cases much higher still, especially when the contracts concerned cover a small number of shiploads. The latter are very probably subject to spot rates for freightage, w as has already been seen, increased by 100-200 per cent.

As in the case of prices, the increment in freight charges, consequently their effects on the cost of imports of petroleum its derivatives, may sooner or later undergo substantial mod tion in accordance with developments in the Middle East. T VI shows that spot rates from the Netherlands Antilles to north-east coast of the United States and to the United King had already decreased between December 1956 and February and it is understood that current prices for freight from Caribbean area to the Pacific coast of South America droppe 25 per cent when the pipeline from Iraq to the Mediterra started to operate again partially. New and more marked re tions can be expected when traffic through the Suez Ca restored to normal, although prices will probably remain s what higher than before the crisis.

4. CONCLUSIONS

Although the Suez crisis has not seriously affected the S American importer countries' supplies of petroleum and de tives, except as regards costs (and the increment in prices freight charges is presumably temporary or will be reduced s what), it has emphasized one feature of the vulnerability of countries which is of vital importance for the normal operation development of their economies and which, moreover, seri affects their balance of payments and their foreign exch availabilities. A prolongation or repetition of this crisis m not only intensify the rise in prices and freight charges, but m even seriously affect the continuity and volume of suppl

It is therefore likely that one of the principal long-term r cussions of the Suez Canal crisis on the petroleum supply situ in the South American importer countries will be the promoti measures aimed at expanding domestic production so as to re dependence on imports to a minimum. Similarly, an attempt be made to replace petroleum from the Middle East by oil

Table VII. Argentina: Break-down of petroleum and fuel oil imports by currencies used for payment

(Percentages)

Payment currency	*Crude petroleum*			*Fuel oil*		
	1954	*1955*	*1956*	*1954*	*1955*	*1956*
Dollars	43.2	40.1	46.6	29.4	52.0	73.0
Pounds sterling	53.8	55.7	52.1	59.0	30.0	26.0
Other currencies	3.0	4.2	1.3	11.6	18.0	1.0
	100.0	100.0	100.0	100.0	100.0	100.0

Source: Economic Commission for Latin America.

---

[20] In both countries the private and State-operated petroleum companies maintain long-term supply and freight contracts. For example, on the basis of tenders received in February 1956, ANCAP contracted for supplies up to 1960. Both PETROBRAS and ANCAP have their own fleets of tankers, covering their transport deficit, as has been explained, with long-term freight contracts.

zuela and other Latin American countries. This substitution eady taking place in some cases, as is proved by the growing of Venezuelan crude petroleum in Argentina's imports per cent in 1954, 49 per cent in 1955 and 57.1 per cent in 1956).

view of the wide variety of types and densities of the petro- produced in Venezuela and of that purchased abroad by the largest importer countries (Argentina and Brazil), there are rently no technical obstacles to the implementation of such oject. What may constitute a serious difficulty is the need to or Venezuelan petroleum in dollars, which are always in short ly in the countries mentioned. Argentina pays for petroleum Kuwait entirely in pounds sterling and probably uses the currency for a large proportion of the oil it buys from the Netherlands Antilles and some Venezuelan oil. As can be seen in table VII, the proportion of crude petroleum—and that of fuel oil even more so—paid for in dollars has increased in the last three years, undoubtedly because of the heavier imports of Venezuelan petroleum referred to, and this has seriously affected Argentina's dollar availabilities.

Yet it is not impossible that agreements to their mutual interest and benefit may be concluded between Venezuela and the other Latin American countries, especially on the basis of increased reciprocal trade in both directions. Neither should it be forgotten that there are other countries in Latin America, such as Bolivia, for example, which may become increasingly important sources of the region's petroleum supplies.

Chapter III

THE BALANCE OF PAYMENTS

I. TRADE

It has already been pointed out that a favourable trend in foreign demand for many important primary commodities and a relatively elastic response on the part of production for export were the dominant characteristics of Latin America's external sector during 1956. Exports increased in volume by 8 per cent in relation to their 1955 level, and, although their price was slightly lower, their aggregate current value was 6 per cent higher than that of the preceding year. Hence it was possible to maintain the volume of imports at much the same level as in 1955, despite a rise in import prices which was largely due to the increase in freight charges. The trade-balance surplus —import values being calculated on a c.i.f. basis— which had amounted to 443 million dollars in 1955, reached 639 million in 1956 (see table 17). This was one of the highest figures since 1950 and represented almost one-tenth of the value of exports.

If countries are classified according to the positiv negative trend in the value of their exports, it will be s that the volume of the sales abroad effected by the sixt republics in the first category increased at the same t as their value, except in the case of Chile, where it creased (see table 18). Export prices followed a uniform trend in this group of countries and fell sligh or showed little variation in most of them, Argenti Uruguay and Paraguay being the exceptions. In second group, comprising those countries in which current value of exports declined, the downward tren seen to be due to a reduction in the volume of expo

The trade-balance situation indicated above for La America as a whole really conceals considerable discr ancies, which become apparent if the individual positio the various countries is examined. Thus, for example Chile, the Dominican Republic, Venezuela and severa the Central American countries, the increase in the va

Table 17. Latin America: Foreign trade and trade balance[a]

(Current values in millions of dollars)

	Export 1955	*Percentage variations 1956/55* [b]		*Trade balance* [c]	
		Exports	*Imports c.i.f.*	*1955*	*1956*
I. *Countries whose exports increased*	7,179	8	4	578	844
Venezuela	1,912	11	11	820	922
Brazil	1,423	3	−7	119	254
Argentina	928	1	−4	−244	−185
Mexico	792	10	21	−92	−198
Cuba	594	12	12	−28	−31
Chile	476	2	1	99	105
Peru	260	20	19	−39	−45
Uruguay	184	5	−12	−42	−5
Dominican Republic	114	7	7	2	2
Guatemala	109	1	0	5	6
El Salvador	107	9	10	15	15
Ecuador	88	2	−10	−20	−7
Nicaragua	72	3	1	0	1
Honduras	50	25	−6	−15	1
Paraguay	35	10	−10	2	9
Haiti	35	34	19	−4	0
II. *Countries whose exports decreased*	793	−8	1	−135	−205
Colombia	584	−8	−3	−85	−113
Bolivia	95	−7	+21	11	−15
Costa Rica	80	−7	3	−8	−16
Panama	34	−5	7	−53	−61
TOTAL	7,972	6	4	443	639

Source: ECLA, on the basis of data provided by the International Monetary Fund and official data.

[a] Figures for 1956 are partly estimated or provisional. Inter-Latin American transactions are included.

[b] The percentages of variation have been rounded.

[c] Imports on c.i.f. basis.

Table 18. Latin America: Trade trends in 1955 and 1956[a]

	Exports				Imports		
	Quantum		Unit value variation 1956/1955 (Percentage) [b]	Current value variation 1956/1955 (Millions of dollars)	Quantum		Current value variation 1956/1955 (Millions of dollars)
	1955 at 1950 prices (Millions of dollars)	Variation in 1956 (Percentage) [b]			1955 at 1950 prices (Millions of dollars)	Variation in 1956 (Percentage) [b]	
I. *Countries whose exports increased*	6,767	10	− 2	546	6,031	1	280
Venezuela	1,702	15	− 3	212	999	6	110
Brazil	1,384	5	− 2	41	1,278	− 9	−94
Argentina	939	8	− 7	15	1,037	− 2	−44
Mexico	755	6	4	82	773	17	188
Cuba	688	11	1	74	506	9	78
Chile	315	− 7	9	8	320	− 4	2
Peru	270	17	3	51	290	17	57
Uruguay	216	16	−10	10	229	−25	−27
Dominican Republic	118	5	2	8	102	5	8
Guatemala	82	0	0	1	101	0	0
El Salvador	77	9	0	11	85	8	10
Ecuador	76	1	1	2	107	− 9	−11
Nicaragua	54	4	0	2	73	− 2	1
Honduras	37	28	− 3	13	60	−10	−3
Paraguay	24	29	−20	4	36	−10	−3
Haiti	30	34	0	12	35	16	8
II. *Countries whose exports decreased*	666	− 9	1	−60	847	− 5	10
Colombia	491	− 8	0	−45	594	−10	−17
Bolivia	82	−13	6	− 7	93	17	18
Costa Rica	63	− 9	2	− 6	78	0	3
Panama	30	− 4	− 1	− 2	82	7	6
TOTAL	7,433	8	− 2	486	6,878	1	290

Source: ECLA, on the basis of data provided by the International Monetary Fund and official data.
[a] Figures for 1956 are partly estimated or provisional.
[b] The percentages of variation have been rounded.

exports was enough to cover the increment in imports
d ultimately resulted in a trade-balance surplus (see
ole 17). In contrast, Brazil's substantial positive
lance, which was considerably higher than in 1955, was
hieved mainly by a reduction in the volume of imports.
Cuba, Mexico and Peru, the trade balance showed a
ficit, although these countries' exports far exceeded
ose recorded in 1955. In the case of Mexico, the nega-
e balance can be regarded as offset by the income
cruing from the tourist industry. In that of Peru, it
ist be borne in mind that the extra imports really rep-
sented an inflow of capital in the form of goods. The
ficits of Argentina, Ecuador and Uruguay were rather
ver than those already registered for these countries in
55, the decrease being mainly attributable in all three
ses to the curtailment of imports. As regards those
untries whose exports declined, it should be pointed out
at in Colombia, Costa Rica and Panama the trade de-
it was considerably larger than in the preceding year.

II. TRANSPORT AND OTHER SERVICES

Net transactions for transport represent substantial ex-
nditure of foreign currency for Latin America. In 1956,
ring to the rise in maritime freight charges (see table
), a further increase was recorded under this head,
ich followed on an increment of the preceding year and
s principally due to the steady expansion of world trade. Furthermore, from November onwards petroleum transport costs increased substantially, as a result of the political crisis in the Middle East. It may be estimated that for Latin America as a whole maritime freight charges rose on the average by 12 per cent, that is, in virtually the same proportion as in 1955. The additional burden was probably greater still for Latin American countries like Argentina and Brazil whose imports of liquid fuels are particularly heavy.

As can be seen in table 19, Latin America's net outflow of foreign exchange under the head of non-financial services dropped to a negligible figure in 1956. But this favourable development is almost entirely attributable to the substantial and steady increase in Mexico's tourist income.[1] The payments made by the United States to Panama under the terms of a new agreement on the Canal, although slightly heavier than in 1955, made a much smaller contribution to this improvement. In the other Latin American countries the non-financial services account continued to show a deficit, which in some cases was fairly considerable.

Disbursements of foreign exchange in the form of profits deriving from international investments are by far the most considerable of such disbursements registered in the various services accounts. Broadly speaking, the upward

---

[1] To judge from incomplete data, income from the tourist industry seems to have increased in Cuba and Haiti also.

Table 19. Latin America: Net balances on the various current account transactions, excluding commodities[a]

(Millions of dollars)

Country	Transport and insurance		Non-financial services[b]		Profits from international investments[c]	
	1955	1956	1955	1956	1955	1956
Argentina	−127	−136	− 30	− 34	− 20	− 25
Brazil	142	−175	− 96	−100	− 115	− 145
Colombia	42	− 91	− 36	− 34	− 22	− 22
Chile	− 58	− 67	− 21	− 15	− 78	− 101
Mexico	− 10[d]	− 14[d]	+425	+270	− 93	− 130
Peru	− 36	− 47	− 5	− 3	− 23	− 55
Venezuela	−120	−140	−135	−145	− 572	− 600
Others	−195	−217	+ 35[e]	+ 48[e]	− 130	− 150
TOTAL	−730	−808	− 33	− 13	−1,053	−1,228

Source: ECLA, on the basis of data provided by the International Monetary Fund.

[a] Figures for 1956 are partly estimated. Official and private grants-in-aid are not included.

[b] Non-financial services mainly comprise income and expenditure in respect of registered patents and trade-marks, various governmental transactions and income and expenditure deriving from the tourist industry.

[c] This also includes interest on official loans.

[d] The figures for Mexico exclude a large proportion of the freight costs of imports, particularly the costs of overland transport in the United States which are very difficult to assess for want of complete data.

[e] Panama's income from the Canal and the free-trade area more than offsets the other countries' expenditure.

trend observable in such remittances for several years past continued in 1956 in relation to the preceding year (see table 19). Since a large proportion of foreign capital is invested in the principal export sectors, profits are apt to increase when the value of exports rises. As in 1955, Venezuela accounted for approximately half the total figure for Latin America. In Brazil, where profits deriving from foreign capital reached the next highest figure in Latin America after Venezuela's, the increment in relation to 1955 was largely due to the payment of interest on official development loans previously granted. In Chile too there was a marked increase under this head. Insignificant though it is, the increase in Argentina's remittances is worth mentioning because it reflects the way in which this country's policy has veered towards abolition of the restrictions formerly imposed on transfers of this kind.[2] In mid-1956 the authorities released profits amounting to some 100 million pesos which had been blocked until that date. Nevertheless, the transfers actually effected by virtue of this measure fell considerably below the figure authorized, as a large proportion of the profits concerned had already been reinvested.

III. FOREIGN INVESTMENT

Private foreign investment in Latin America, excluding reinvestment, increased very substantially in 1956, thus strengthening the trend which had made its appearance in 1955 after the decline registered in such investment during 1954. This trend—together with the favourable evolution of the private short-term capital account[3]—more than offset the decrease in the resources accruing
from official loans[4] (see figure IX). Consequently,
total net inflow of capital rose to more than 600 mill
dollars, a figure which compares very favourably with
250 million registered in 1955. This enhanced the cap
ity to import. It should be added that these recei
offset to a greater extent than before the outflow of p
fits and interest, of which they represented about 60
cent as against 35 per cent in 1955.

The largest inflow of private long-term capital ca
from the United States and, to a much lesser degr
from Western Europe, mainly because of the prosper
prevailing in these regions, although from the econor
standpoint the immediate motive of these investme
was not always the same. In some cases their purp
was to develop the sources of Latin American raw ma
rials, especially petroleum, in order to ensure that
industrial centres' growing requirements were satisfi
In others, investment in Latin America was aimed
maximum utilization of the opportunities offered by

---

[2] Restrictions on remittances of profits in respect of new capital now being invested in Argentina have already been completely abolished.

[3] No data from Latin American sources are available as yet on
movements of private short-term capital. However, the Uni
States balance of payments for 1956 reflects a considerable
provement in this respect. The balance in question shows
outflow of funds to Latin America, in contrast with the fact t
during 1955 an inflow of short-term capital from the La
American countries had been registered in the United States

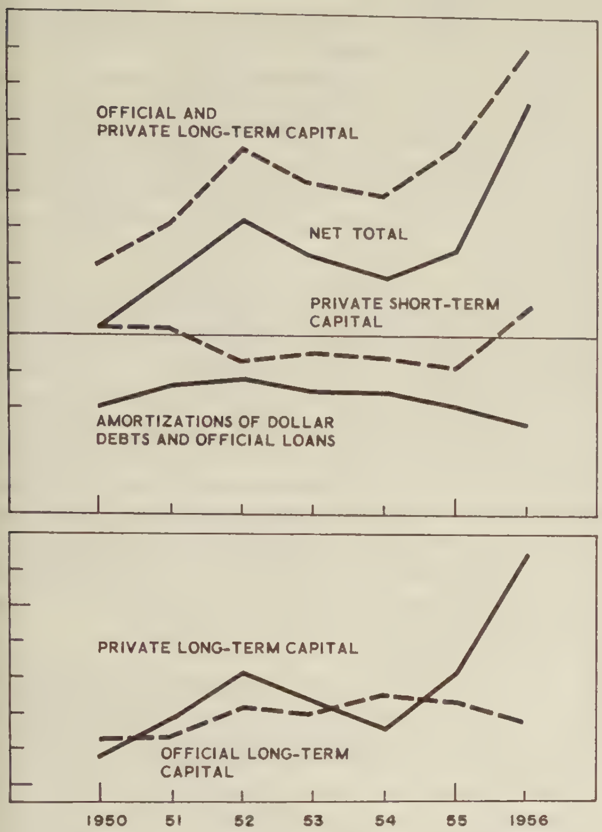
[4] The new loans authorized by the United States Expo
Import Bank increased considerably, amounting to 420 mill
dollars as against 120 million in 1955. The fall in disburseme
under the head of official loans may therefore well be regarded
purely temporary. The Export-Import Bank's disburseme
had been substantial in 1953 and 1954 (see the *Economic Surv
of Latin America* for the two years concerned) and in 1956 amou
ted to 70 million dollars as against 108 million in the preced
year. The International Bank for Reconstruction and Devel
ment also authorized further loans to a value of 70 million doll
and disbursed some 30 million dollars in favour of Latin Ameri
as compared with 77 million in 1955.

Figure IX

OTAL BALANCES AND BREAK-DOWN BY MOVEMENTS OF CAPITAL

(In millions of dollars)

Natural scale



ion's new and expanding markets. In pursuing this ter objective, there is a tendency to establish in the sumer centres themselves subsidiaries of those indus- l enterprises, especially when the resources available these enterprises for investment and development eed the absorption possibilities offered by the investing ntry.

hese, however, are not the only factors which account the greater activity displayed by foreign investors in in America. An outstanding example is to be found in efforts to encourage foreign investment made by a up of Latin American countries in recent years. In zil in 1956 receipts of private long-term capital reached evel more than 40 per cent higher than in 1955, this stituting one of the most intensive rates of growth re- ded in Latin America. Some export activities—the ing of iron ores and manganese[5]—received a share of new inflow of capital; but the sectors which benefited st were the metallurgical, mechanical and chemical ustries, because of the exceptionally favourable pros- ts offered to these products by the considerable size of the Brazilian market. As in 1955, the arrangement whereby imports could be effected without the use of foreign exchange[6] provided an incentive to foreign investments in the shape of the exchange privileges it accords them.[7]

The Brazilian authorities' policy of low tariffs for public services still hindered the expansion of private investment in basic sectors such as transport and the production of electricity. To finance the essential improvements needed in these sectors, Brazil successfully applied to the United States Export-Import Bank for new official development loans amounting to 225 million dollars, but disbursements actually effected under this head reached only 20 million dollars in 1956.[8] It should be pointed out that Brazil's long and medium-term indebtedness to the Bank in question already amounted to 523 million dollars, that is, 33 per cent of the average import capacity for the last two years.

Although in Chile the progress achieved was far less than in Brazil, the inflow of private long-term capital was greater in 1956 than in 1955. The taxation and exchange privileges provided under the legislation on foreign investment brought into force at the end of 1953 and the beginning of 1954 played a fairly important part in the favourable evolution of the capital account, but the factor with the greatest impact was undoubtedly the tax reductions granted to the foreign copper companies.[9] In this connexion it is important to stress that, at the end of 1956, further investment in copper mining to a value of 102 million dollars was approved, so that the total capital contributions authorized in other sectors of the economy amounted to no more than some 35 million dollars. Hence Chile's most important export industry is still the favourite field of investment for foreign capital, especially for United States enterprises. Other activities are so far benefiting by only a relatively small contribution of capital, either for want of strong foreign trade incentives—as in the case of nitrate production—or, when the sectors involved are those principally concerned with satisfying domestic demand, because of the smallness of the Chilean market. Moreover, certain programmes for the development of the basic social capital sectors can hardly be put into effect with private capital, since their financial profitability is relatively low. The International Bank for Reconstruction and Development and the Export-Import Bank authorized several loans to Chile in 1956, totalling 46 million dollars. The portions of these loans which are disbursed in the next few years will be timely in view of

---

After nine years spent in prospecting and in building mining allations, the manganese mines in Amapá entered production he beginning of 1957. It seems that in this year manganese orts will attain a value of 35 million dollars, which will later to 50 millions.

[6] The new régime was established early in 1955 under Instruction 113 issued by the *Superintendencia da Moeda e Credito*. In 1953 two federal acts had granted foreign capital the same treatment as was accorded to capital from domestic sources.

[7] Another factor, of a transient nature, which contributed to the increase in capital receipts was the credit restrictions imposed during 1956 as part of a severe anti-inflationary policy. Several foreign industrial enterprises had to bring in funds from abroad to meet their current financial requirements.

[8] In 1955 they had stood at 40 million dollars.

[9] The "new deal" for the large copper mines was established under the terms of Act No. 11,828 of 5 May 1955 (see "Some aspects of the acceleration of the inflationary process in Chile", in the *Economic Bulletin for Latin America*, vol. I, No. 1, Santiago, Chile, January 1956, pp. 45 *et seq.*) In addition, a "new deal" for the nitrate industry was established in 1956 under Act No. 12,018 of 23 April.

the inadequacy of private investment in certain branches of the Chilean economy.

It is likely that in Argentina the inflow of private long-term capital increased fairly considerably in 1956. From the post-war period up to 1952 economic policy had discouraged foreign investment; and the reform introduced four years ago to encourage the investment of capital in Argentina had done little or nothing to modify the situation thus created. There can be no doubt that the establishment of a genuinely free exchange market at the end of 1955, as well as the decision to authorize the transfer abroad of a substantial proportion of hitherto blocked profits, were two preponderant factors in the relative improvement recorded in 1956. Despite this progress, however, the inflow of private capital was still insignificant as compared with foreign exchange export earnings, and was far from attaining the figures registered in other Latin American countries. The structural economic difficulties which the country is endeavouring to overcome partly account for this phenomenon. Furthermore, some of the sectors of the Argentine economy which are in most urgent need of new investment—transport, for example—are State-owned. Consequently, the obtaining of official loans is as necessary and valuable a solution for Argentina as for Brazil and Chile. In 1956 Argentina became a member of the International Bank for Reconstruction and Development, besides obtaining several loans, totalling 100 million dollars, from the United States Export-Import Bank, to finance imports of capital goods for the improvement of the transport system.[10]

During the past ten years the encouragement of foreign investment has been an almost permanent feature of the economic policy of Mexico, Peru and Venezuela. As in addition the natural resources of these countries or the size of their domestic markets offered excellent investment opportunities, the inflow of long-term capital attained very high figures.

In Venezuela, which has been by far the favourite field for investment, and where foreign capital has been mainly concentrated in the petroleum sector, the authorities granted new concessions for liquid fuel extraction in 1956. The value of the corresponding prospecting rights totalled some 400 million dollars, and the first payments (approximately 250 million dollars) made under this head by the United States and European enterprises concerned constituted the greater part of the increase in the inflow of capital into Latin America and had favourable repercussions on Venezuela's balance of payments.[11] Moreover, foreign investment in other sectors of the economy—manganese extraction, chemicals industries, trade and banking—also increased substantially. In Peru likewise receipts of private capital were higher than in 1955 and contributed to the development of export activities and of several sectors concerned with supplying domestic demand. Special attention should be drawn to the implementation of the project for a copper mine in Toquepala, in connexion with which considerable progress made thanks not only to private financial contributi but also to a disbursement by the Export-Import B of 5 million of the 100 million dollar loan granted Peru in 1954.

Mexico's situation was no less favourable. Fore private investment continued to increase, especially in mechanical and chemicals industries. Moreover, Export-Import Bank authorized new loans to a sum 54 million dollars. The largest of these credits were tended to assist in the development and improvement the transport system, of the metallurgical industry and agriculture. As in the case of the countries discus above, the Bank's actual disbursements in favour Mexico during 1956 were small in relation to the to authorized.

Only very incomplete data are available on the mo ments of foreign investment in the other Latin Ameri republics. To judge from the figures to hand, the infl of private capital expanded somewhat in Uruguay a slightly in Colombia and the Central American countri On the other hand, there seems to have been some deg of stagnation in foreign investment in Bolivia. Nevert less, at the end of 1956 the adoption of new legislation petroleum and the implementation of an economic a monetary stabilization programme opened up m encouraging prospects for the future evolution of forei investment in this country.

IV. THE CAPACITY TO IMPORT, IMPORTS GOODS AND SERVICES AND THE BALANCE-O PAYMENTS SITUATION

Latin America's capacity to import,[12] which had alrea attained a hitherto unprecedented level in 1955, on again increased in 1956, thanks to the expansion of e ports and the greater inflow of capital. Its rate of grow rose to 9 per cent as against 3 per cent in the precedi year. Imports of goods and services also registered upward trend, although this was less marked than in t case of the capacity to import; they stood at appro mately 6 per cent above their 1955 level.

While in 1955 Latin America's balance of payments h shown a deficit of some 60 million dollars, in 1956 a su plus which can be estimated at about 230 million w registered (see table 20). Yet in the two years under view the deficits or surpluses in the balance of paymen were insignificant in comparison with the extent of t capacity to import. The replacement of a negative by positive balance represented not so much a radical chan as a prolongation of the trend observable since 19 towards a greater degree of equilibrium in the regio foreign accounts. This phenomenon was in contrast the marked instability of the balance of payments duri 1950-53, and was due to the increasing steadiness of wo demand for certain primary commodities, as well as to t efforts of several Latin American republics to bring th imports more strictly into line with the income availa

---

[10] By February 1957 these loans had not been used. During that month an agreement was signed between the Argentine Government and the Export-Import Bank providing for the utilization of an initial sum of 56 million dollars.

[11] Part of the operating fees were also defrayed by reinvestment of some of the foreign companies' profits.

[12] The capacity to import, expressed in terms of current valu is equivalent to the sum of exports of goods and services plus net balance of the capital account, minus remittances of profits a interest.

Table 20. Latin America: Capacity to import, imports of goods and services and balance-of-payments position

(Millions of dollars)

	Capacity to import 1955	*Import of goods and services 1955*	*Percentage variation 1956/55* [b]		*Balance-of-payments position*	
			Capacity to import	*Imports of goods and services*	*1955*	*1956* [a]
I. *Countries whose capacity to import increased*						
Venezuela	1,392	1,340	+30	+ 9	+ 52	+360
Brazil	1,529	1,440	+ 2	— 6	+ 89	+200
Mexico	1,291	1,064	+14	+33	+227	+ 45
Cuba	776	696	+13	+20	+ 20	— 25
Peru	325	339	+23	+15	— 14	+ 10
Uruguay	182	260	+21	—14	— 78	— 2
Dominican Republic	112	126	+14	+ 5	— 10	+ 1
Guatemala	127	110	+ 1	+ 2	+ 17	+ 15
Ecuador	116	127	+ 3	— 8	— 11	+ 2
El Salvador	99	102	+12	+13	— 3	— 4
Bolivia	100	114	+ 2	8	— 14	— 20
Honduras	58	65	+ 6	— 3	— 7	— 2
Haiti	56	54	+10	+19	+ 2	— 4
Paraguay	39	38	+ 4	— 4	+ 1	+ 3
II. *Countries whose capacity to import remained stationary*						
Argentina	1,060	1,282	—	— 5	—222	—161
Chile	467	440	—	+ 7	+ 27	— 8
Panama	119	122	—	+	— 3	— 5
III. *Countries whose capacity to import decreased*						
Colombia	610	740	— 8	— 3	—130	—160
Costa Rica	79	81	— 6	+ 1	— 2	— 8
Nicaragua	80	81	— 5	+ 2	— 1	— 7
TOTAL FOR LATIN AMERICA [c]	8,561	8,621	+ 9	+ 6	— 60	+230

Source: ECLA, on the basis of data provided by the International Monetary Fund and official data.

[a] Figures for 1956 are partly estimated or provisional. For 1955 as well as 1956 the errors and omissions relating to the capacity to import and imports of goods and services were included. A dash (—) indicates a percentage variation of less than 0.5 per cent.

[b] The percentages of variation have been rounded.

[c] Under the capacity to import and imports of goods and services inter-Latin-American transactions are included.

financing them. The sizable surplus in Venezuela also l a marked effect on the favourable balance in Latin nerica in 1956.

n most countries of the region the evolution of the ance of payments displayed favourable characteristics re or less similar to those noted with respect to Latin nerica as a whole (see table 20). In relation to 1955, capacity to import improved in fourteen Latin Ameri- republics. Imports of goods and services expanded in rteen countries, on the whole at a fairly intensive rate. ly in Bolivia and Colombia did the balance-of-pay- nts situation seriously deteriorate in 1956.

ne of the largest increments in the capacity to import s recorded in Venezuela, thanks to the new boom in roleum sales and the considerably greater inflow of eign capital. As on previous occasions, Venezuela's purchases abroad increased to a lesser extent than the income available for financing them. Since a system of absolutely free trade prevails in Venezuela, it can safely be asserted that the evolution of the demand for imports lags behind that of the capacity to import, an exceptional stage of affairs in Latin America at the present time. As a result, since the post-war years Venezuela's balance of payments has almost always shown a considerable surplus. In 1956 this positive balance amounted to 220 million dollars, the peak figure for the region. According to the latest data received, the surplus for Venezuela is considerably more than 360 million dollars.

Cuba, Mexico and Peru also benefited from a substantial increase in their capacity to import, but, in contrast to Venezuela, their imports of goods and services tended to absorb this capacity up to its limit. Mexico is a particularly good illustration. In 1955, following the recent devaluation, exports increased more than imports. In 1956 the reverse took place, inasmuch as the effects of the exchange adjustment were attenuated, and the balance-of-payments surplus dropped to 45 million dollars as against 226 million in the preceding year.

Brazil witnessed only a very slight improvement in its capacity to import in 1956. In the first place, the increase in the volume of exports due to greater coffee sales was largely offset by a decline in their unit value; and, secondly, expenditure on the servicing of development loans granted at an earlier date counterbalanced the favourable effects of higher foreign investment. Nevertheless, Brazil's balance-of-payments surplus was much larger than in 1955. 1956 was the second consecutive year in which imports of goods and services decreased. Although this further decline in imports encouraged import substitution in certain lines, on the other hand it affected supplies of raw materials and capital goods for some industries, a fact which was ultimately responsible in part for slowing up the growth of the gross product. But the Government's reason for adopting restrictive measures was that it had to meet several medium-term financial commitments and to replenish partially the country's foreign exchange reserves, which had been seriously affected by the debit balances registered in 1950-54.[13]

Argentina succeeded in reducing considerably the substantial deficit which had characterized their balance-of-payments situation in 1955.[14] This reduction was almost entirely the result of the contraction in purchases abroad. Despite a very slight expansion in exports, mainly consequent upon the very small increase in the volume of meat sales, the country's capacity to import remained virtually stationary. Owing to the need to import more in order to overcome certain internal economic difficulties and to pay off progressively financial commitments amounting to a fairly considerable sum,[15] the problem of expanding its capacity to import is of vital importance in Argentina.

It has already been mentioned that in 1956 Bolivia and Colombia—especially the latter—showed a deterioration in their balance-of-payments situation which was intrinsically rather serious (see again table 20). Bolivia's exports were once more far from sufficient to finance imports of the most essential consumer goods, and increasing aid from abroad became necessary to prevent an acute supply crisis. Colombia's capacity to import again declined, owing to a contraction in the volume of coffee sales and to the fact that part of the difference between the registered price of coffee, i.e. the price fixed for the compulsory refunding of foreign exchange, and the higher price prevailing in the international market remained abroad, which was equivalent to an outflow of capital. Nevertheless, the level of imports remained high, and balance-of-payments deficit was greater than in 195 However, in contrast with Bolivia's position, in Colom there is a wide margin for the reduction of purcha abroad without adverse effects on the consumption essential products or on the short-term development industrial activity. At the close of 1956 the Colomb authorities adopted a policy definitely designed to down imports.

V. FINANCING OF BALANCE-OF-PAYMENTS DE ICITS. THE PROBLEM OF SHORT AND M DIUM-TERM DEBTS IN BRAZIL, ARGENTI AND COLOMBIA

In the year 1956 important changes were made in methods previously used by certain Latin Americ countries to finance their balance-of-payments defic In Colombia, where movements of gold and foreign change holdings have always been the traditional me od of covering such negative balances, the deficit w financed by the accumulation of trade debts. In contra the variations in the monetary reserves of Argentina a Brazil were greater than in 1955, so that the relative s of short and medium-term credits in the bilateral pa ments agreements accounts was less. The changes th took place in the last two countries were partly a reflecti of the channelling of their foreign policy towards mu lateralism in trade and limited convertibility. If La America is taken as a whole, it can be seen that course followed by its aggregate monetary reserves w more in line with the balance-of-payments position 1956 than in 1955 (see table 21). Thus, from the sta point of methods of financing balance-of-payments de cits, a certain tendency to return to pre-war conditio became apparent.

In all the countries whose balance of payments show a surplus, an increment was recorded in their gold a foreign exchange assets. In Venezuela, where this w the case to a marked extent, the expansion which had be observable for some years was thus prolonged, and serves reached the equivalent of 60 per cent of current i ports of goods and services, as against 39 per cent in 19 On the other hand, the increase in Mexico's reserv though considerable, was not so great in 1956 as in the p ceding year, because of the sizable increment in impo Gold and foreign exchange holdings also increased p ceptibly in Guatemala and Peru, as well as in Ecuad where they recovered sharply towards the end of year, after having declined up to October.

In the countries with a deficit in their balance of p ments, this negative balance was as a rule reflected in fluctuations in their monetary reserves. In Costa R and Nicaragua there was a serious drop in these reser in contrast with the increment recorded in the preced year. Chile financed its deficit with the United Sta by using part of its dollar reserves; but its bilateral p ments accounts showed an increasing credit balance in favour, thanks in the main to its trade surplus w Argentina. In April 1956, when a free exchange mar

---

[13] See section V below, which deals partly with the problem of Brazil's financial commitments abroad.

[14] The Buenos Aires Review *Economic Survey* records a deficit of some 220 million dollars in Argentina's balance of payments, instead of the 160 million given here in table 20. The estimate in the review in question includes the amortization of short and medium-term debts, which in the present *Survey* are regarded as compensatory movements.

[15] As regards the problem of Argentina's short and medium-term debts, see also section V below.

[16] The deficit led to an accumulation of short-term trade de The question of Colombia's debts is further discussed in sectio

Table 21. Latin America: Balance-of-payments position and clearing account variations[a]

(Millions of dollars)

	Balance-of-payments position[b]		*Gold and foreign exchange reserves*		*Trade arrears*		*Short-term credits amortized (+) or received (—)*		*Consolidation credits amortized (+) or received (—)*	
	1955	*1956*	*1955*	*1956*	*1955*	*1956*	*1955*	*1956*	*1955*	*1956*
ntina	−222	−161	− 62	−145	—	—	−160	+66	—	—
il	+ 89	+200	+ 12	+147	+29	+ 10	+227	—	−179	+43
mbia	−130	−160	− 86	—	+43	+160	+ 1	—	—	—
. . . .	+ 27	− 8	+ 13	− 17	—	—	− 14	− 9	—	—
co	+227	+ 45	+213	+ 45	—	—	− 14	—	—	—
. . . .	− 14	+ 10	− 6	+ 10	—	—	− 8	—	—	—
zuela	+ 52	+360	+ 52	+360	—	—	—	—	—	—
rs	− 89	− 56	− 39	− 25	−17	—	− 33	−31	—	—
TOTAL	− 60	+230	+ 97	+375	−31	−150	+ 53	−38	−179	+43

Source: ECLA, on the basis of data provided by the International Monetary Fund and official statistics.

Note on presentation: So that the significance of the figures on gold and foreign exchange reserves may be directly evident, a (+) sign has been used where these reserves increased and a minus (−) sign where they decreased. The amortization of trade rs and credit is equivalent to an increase in net reserves which reduces the country's debit balance. Thus the plus sign (+) is for it, while the minus sign (—) is used for outstanding trade arrears and credit.

[a] Figures for 1956 are partly estimated.

[b] Including errors and omissions item in the various clearing accounts.

established for imports, the Chilean authorities ob- ed a 35 million dollar credit from the International etary Fund,[17] which has not been utilized up to the ent. By the end of September reserves in Bolivia had hed a level slightly higher than that registered in ember 1955, but they would have been much less if ral medium-term credits had not been forthcoming n European sources as well as aid from the United es, to a total of some 30 million dollars or approxi- ely three times as much as the country's gold and ign exchange holdings.

he experience of Brazil, where there was a surplus in balance of payments, and that of Argentina and Co- bia, where a deficit was registered, are worthy of more ailed study. In these countries the respective im- tance of the movements of their various clearing ac- nts changed considerably in relation to 1955. Further- e, each of them had been confronted, either recently ome years before, with the very serious problem of ing to meet over the short term a considerable volume rade or financial commitments.

n Brazil this problem first emerged in 1952 and reap- red in 1954 as the result of an exceptional increase in orts, which brought about a heavy balance-of-pay- ts deficit, especially with the dollar area. When al- t all the foreign exchange reserves had already been ized, a number of trade debts still remained outstand- and, as the total gold holdings would not have been icient to cover them, it became essential to curtail orts and draw on several consolidation credits from ign sources. Thanks to such credits, a larger and e dangerous contraction in purchases abroad was ided, but at the same time medium-term financial nmitments accumulated[18] until by the end of 1955 they amounted to some 580 million dollars, or 38 per cent of the import capacity. The servicing of interest and amortization on these commitments and the settlement of the remainder of the country's trade arrears absorbed most of that year's credit balance in the foreign account. In 1956, on the other hand, the most pressing short-term problems having been already solved, the balance-of-payments surplus—which was, moreover, considerably larger than in 1955—enabled the foreign exchange reserves to be partly reconstituted and the medium-term debt to be serviced without recourse to further foreign aid (see again table 21). This was possible only by maintaining imports at a low level, which undoubtedly resulted not only in the continuance of the internal inflationary process but also in the supply difficulties experienced by certain Brazilian industries in 1956.

As can be seen from table 22, the financial burden represented by the servicing of consolidation credits will gradually increase during the next few years and will therefore add to the difficulty of expanding imports. Consequently the agreement recently concluded with the United States, which provides for extraordinary sales of United States agricultural surpluses in 1957, 1958 and 1959, to the value of 138 million dollars payable on deferred terms in Brazilian currency, is of special importance to Brazil.

The payments difficulties which Argentina had to face from 1951 onwards were no less serious than Brazil's. These difficulties resulted from the fundamental balance-of-payments disequilibrium originating in the inertia of the capacity to import and the steady growth of import requirements. For a time, short and medium-term foreign credits, obtained mainly under bilateral agreements, helped to relieve the situation; but the problem of liquidating these credits was not slow to arise, and by the end of 1955 Argentina found itself under the obligation to pay its creditors, over a very short term, some 360 million dollars, i.e., more than 30 per cent of the figure attained by

---

Stand-by Arrangement.

A large portion of Brazil's gold reserves was frozen as security he 200 million dollar loan granted in 1955 by several private ed States banks.

Table 22. Brazil: Annual commitments deriving from medium-term compensatory loans granted to Brazil from 1953 to 1955

(Millions of dollars)

Year	*International Monetary Fund*	*Export-Import Bank*	*Various United States banks*	*Total*
1956		39	4	43
1957	25	52	5	82
1958	40.5	52	5	97.5
1959		52	72	124
1960		52	135	187
1961		52		52
TOTAL FOR AMORTIZATION	65.5	299	221	585.5

Source: Bulletin issued by the *Superintendencia da Moeda e Credito,* March 1956.

its capacity to import in the same year.[19] Since, in order to meet such commitments, they would have had not only to draw heavily on their gold holdings but also to reduce imports as a whole, the Argentine authorities preferred to make every effort to secure the consolidation of their commitments. In July 1956, when a multilateral trade system with several European countries replaced the existing bilateral régime, the progressive repayment of a large proportion of Argentina's debts over a ten-year term was agreed upon; but a number of difficulties prevented the effective execution of this agreement during the year.

Meanwhile Argentina considerably reduced its imports from the creditor countries, and since it managed to increase its exports at the same time, it had a positive trade balance which enabled it to settle some of its outstanding commitments, especially those with Germany, which had not yet acceded to the consolidation agreement. Purchases from the convertible currency area, however, strikingly increased, mainly on account of larger purchases of petroleum from Venezuela, and a heavy dollar deficit with this area resulted. To finance this deficit it was necessary to draw on the gold reserves, which thus dropped from 370 million dollars at the end of 1955 to 225 million at the close of 1956, i.e., by 40 per cent. In 1956
Argentina decided to become a member of the Interna
nal Monetary Fund and, as has already been stated, o
International Bank for Reconstruction and Deve
ment. Its accession to the latter places it in a positio
apply for long-term loans to finance imports of ca
goods for specific development projects. Again,
joining the Fund it can secure medium-term credits w
will help it to cover the balance-of-payments deficit
cast for 1957 and 1958.[20]

In Colombia the problem of paying off a consider
amount of short-term foreign debts became really se
in 1956. However, it originated much longer ago in
fact that, as from mid-1954, the expansion of income
a relative time-lag in the substitution process kept imp
at a high level although the capacity to import decrea
Consequently, the balance of payments has been sho
a steadily increasing deficit, and Colombia's mone
reserves—largely utilized to cover the negative balan
its foreign accounts in 1955—fell too low by mid-195
the financing of excess imports (see table 21). Sev
measures applied at that time to curtail purchases ab
and ensure payment of outstanding commitments thr
the free market achieved their objectives only to a
limited extent. By the end of the year trade ar
totalled more than 200 million dollars, which represe
60 million dollars more than the country's aggregate
and foreign exchange holdings.[21] It was for this re
that the Colombian Government decided to put into e
as from that date an austerity programme of which
principal features are stricter control of foreign exch
income accruing from certain secondary exports,
prohibition of many non-essential imports and the d
or indirect devaluation of the exchange rate applic
to goods authorized for importation.[22]

---

[19] By the same date medium-term debts had reached some 404 million dollars, including deferred payment commitments "for permits pending utilization" to the amount of 192 million. Thus aggregate short and medium-term debts totalled some 760 million dollars.

[20] At the beginning of 1957 the International Monetary
officially approved the exchange rate of 18 Argentina pesos t
dollar as legal parity. One of the pre-requisites for the gra
of credits was thus fulfilled.

[21] The total debts of the *Banco de la República* appeare
amount to 275 million dollars, but it would seem that impo
have already paid approximately 65 million dollars through
free market. To trade debts must be added outstanding com
ments for services amounting to 42 million dollars.

[22] At the beginning of 1957 an agreement was signed
several United States banks, under the terms of which the *B*
de la República was to make immediate payment of 60 per ce
its outstanding debts to the United States (i.e., 70 million doll
the remainder to be reimbursed in 30 monthly quotas. For
same purpose negotiations have been initiated with the Fe
Republic of Germany, which is Colombia's second largest cred

Chapter IV

COMPARATIVE STUDY OF THE CAPACITY TO IMPORT IN SELECTED LATIN AMERICAN COUNTRIES, 1946-55

INTRODUCTORY NOTE

is a well-known fact that economic development is ly linked to the rate of growth of the capacity to rt. Furthermore, a perusal of the analysis of the ges in the pattern of imports[1] undertaken in another of this *Survey*, will bring to mind the fact that these ges are to some degree contingent upon this capacity. n, the experience of some Latin American countries the end of the Second World War goes to show how rtant a part has sometimes been played in the short- fluctuations of their economic activity by the move- ts of income from foreign sources.[2] It therefore s of interest to define the characteristics and deter- ng factors of such development during the past de.

the following pages the experiences of selected Latin rican countries are compared as regards first the ium-term and then the annual variations in their city to import, in terms of constant values, during period 1946-55. The principal causes of the move- ts observed are indicated and some explanation is n of the differences in the individual countries. ral suggestions are offered, based on these compari- and explanations, regarding some of the conditions r which the capacity to import might be promoted as edium-term proposition or at least rendered less able over the short term. The countries studied are ntina, Brazil, Chile, Mexico, Peru and Venezuela. choice was determined by the wish to examine cases h are considered to be most typical in Latin America.

e figures and tables showing the medium-term[3] and ial variations present not only the evolution of the city to import in each country but also that of the ous factors which constitute this capacity, namely, volume of total exports of goods and services, the s-of-trade effects, the net balance of the capital unt and the net balance of the movements of profits ved from international investments. All the statistics n are expressed in terms of dollars at 1950 prices.[4]

I. THE CAPACITY TO IMPORT OVER THE PERIOD 1946-55

A comparative study of national experiences shows that over the period 1946-55 as a whole the capacity to import expanded in all countries except Argentina (see table 23 and figures X to XV). It can likewise be seen that this expansion was much greater in Mexico, Peru and Venezuela than in Brazil and Chile.

Table 23. Latin America: Variations in capacity to import and gross product over the period 1946-55 in selected countries

(Percentages)[a]

Country	Capacity to import[b]	Gross product[b]
Argentina	− 25	+10
Chile	+ 60	+20
Brazil	+ 61	+40
Mexico	+ 86	+40
Venezuela	+105	+40
Peru	+ 94	+50

Source: ECLA, on the basis of data on the capacity to import supplied by the International Monetary Fund.

[a] Estimated on the basis of data in constant values in millions of dollars at 1950 prices.

[b] Estimates of variations were based on the extremities of the central trend curve resulting from aggregate annual statistics.

In order to determine the significance of the medium-term evolution of the capacity to import in the various countries under review, it is useful to compare it with the evolution of the gross product over the same period. As can be seen in table 23, improvements in the capacity to import were accompanied by more or less substantial increments in the gross product. In the case of Argentina, where this capacity declined, the gross product increased very little.

It should be recalled in this connexion that the economic development of the Latin American countries first requires and subsequently causes an expansion of imports,[5] and that in this sense it is very largely dependent upon the evolution of the capacity to import. Income from foreign sources, which is derived mainly from the value of exports, constitutes one of the most significant factors in economic growth, not only because it makes it possible to purchase the necessary raw materials and capital goods, but also because it helps to determine the

---

See part Three, "Preliminary study of the effects of post-war strialization on import structures and external vulnerability atin America".

bid.

Estimates of medium-term variations in the capacity to rt were based not on the figures for the first and last years in eriod 1946-55, but on the extremities of the central trend e resulting from the whole body of annual statistics for the d in question. The influence of certain transitory factors was discounted.

See "Special note on the concepts and methods used by ECLA analyses of economic development", in the *Economic Bulletin atin America*, vol. I, No. 2, Santiago, Chile, September 1956, 9 *et seq.* and specifically page 33. The net balances in the capital account and in the movements of profits derived from international investments have been deflated by the index of import prices.

[5] As is common knowledge, economic development affects not only the volume of imports but also their composition (see the special study in part Three, referred to in footnote 1 of this chapter.

Figure X

ARGENTINA: CAPACITY TO IMPORT AND ITS VARIOUS COMPONENTS, ANNUAL VALUES AND CENTRAL TREND CURVES, 1946-1955

(Millions of dollars at 1950 prices)

Natural scale

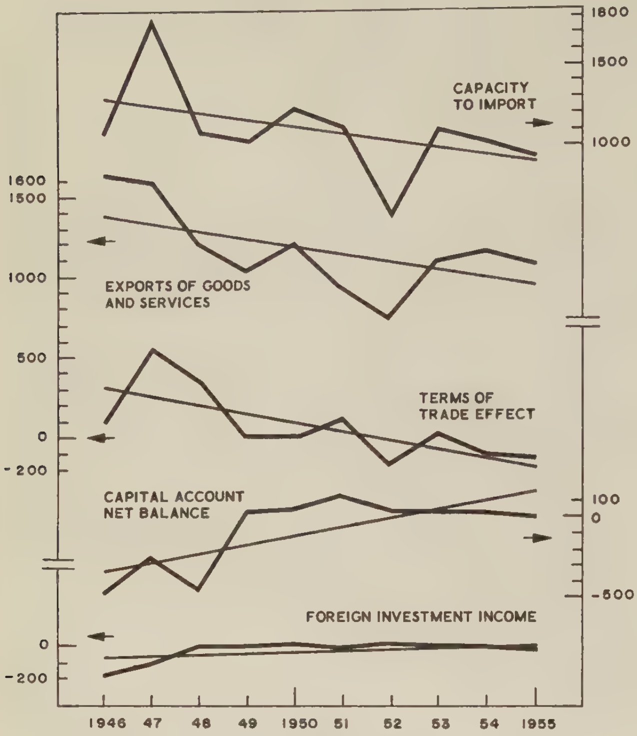


Figure XI

BRAZIL: CAPACITY TO IMPORT AND ITS VARIOUS COMPONENTS, ANNUAL VALUES AND CENTRAL TREND CURVES. 1946-1955

(Millions of dollars at 1950 prices)

Natural scale

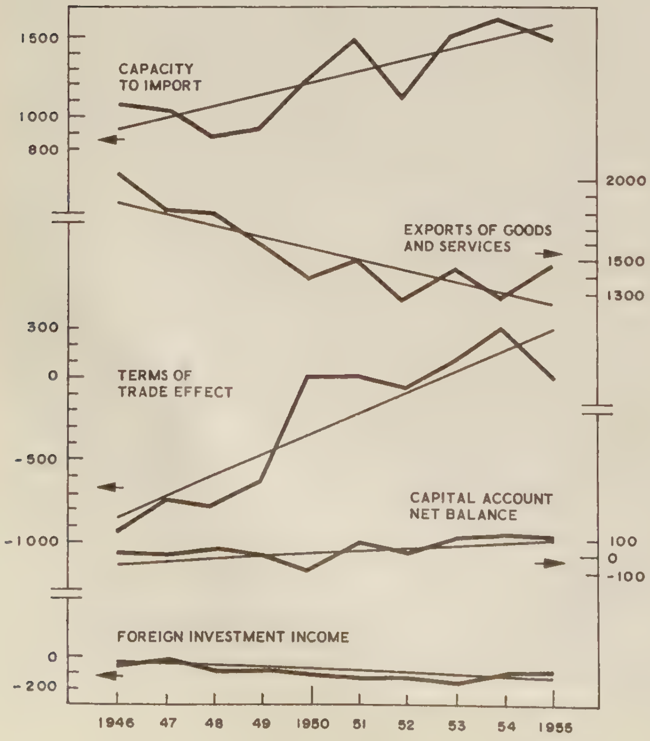


Figure XII

CHILE: CAPACITY TO IMPORT AND ITS VA OUS COMPONENTS, ANNUAL VALUES A CENTRAL TREND CURVES. 1946-1955

(Millions of dollars at 1950 prices)

Natural scale

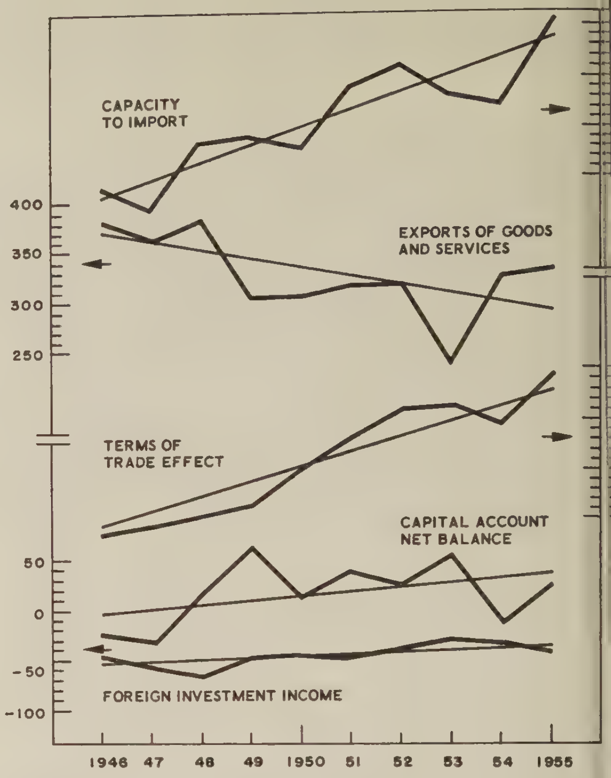


Figure XIII

MEXICO: CAPACITY TO IMPORT AND I VARIOUS COMPONENTS, ANNUAL VALU AND CENTRAL TREND CURVES. 1946-195

(Millions of dollars at 1950 prices)

Natural scale

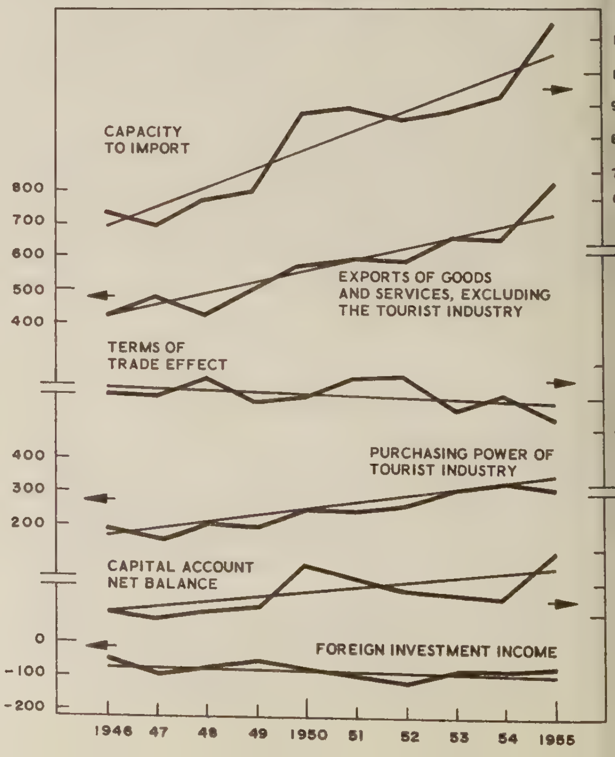


Figure XIV

RU: CAPACITY TO IMPORT AND ITS VARI-US COMPONENTS, ANNUAL VALUES AND ENTRAL TREND CURVES. 1946-1955

(Millions of dollars at 1950 prices)

Natural scale

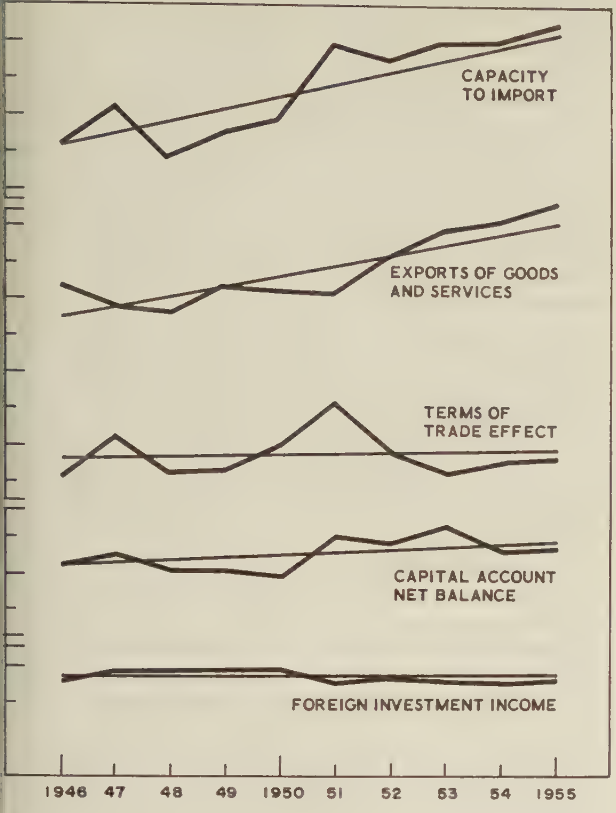
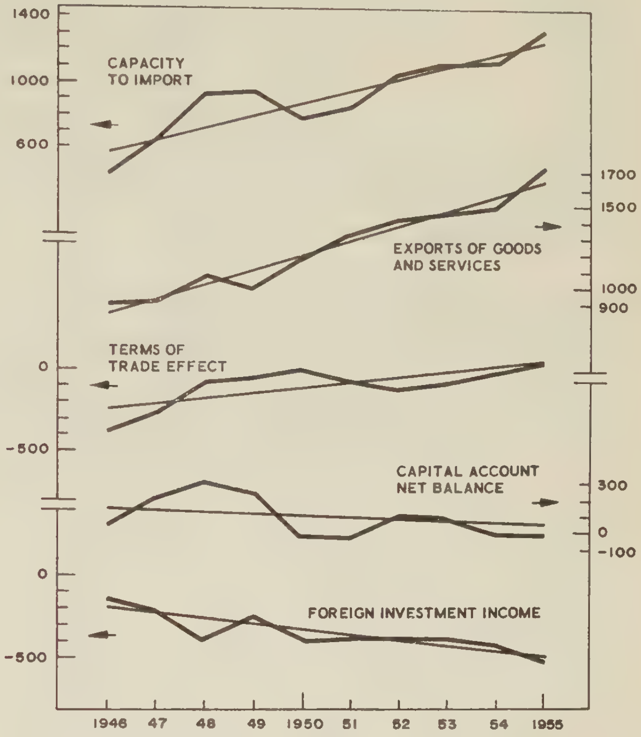


Figure XV

VENEZUELA: CAPACITY TO IMPORT AND ITS VARIOUS COMPONENTS, ANNUAL VALUES AND CENTRAL TREND CURVES. 1946-1955

(Millions of dollars at 1950 prices)

Natural scale



l of domestic demand and, through the profits of the
epreneur, the volume of investment.

evertheless, as table 23 again shows, the correlation
veen the gross product and the capacity to import was
very close as regard the range to the respective fluc-
ions of these two variables. In fact, the behaviour of
internal factors of economic development varied con-
rably from one country to another. Although a
iled and systematic analysis of this question would be
of place here, some interesting aspects may and ought
e pointed out. In Brazil, thanks to relatively favour-
domestic conditions, more capital was accumulated
in Chile, and consequently the former country's gross
luct increased to a much greater extent than the
er's, despite the fact that in both cases the increment
he capacity to import was practically the same.
eover, in contrast with what took place in Brazil,
e and especially Argentina, the economic policy of
ezuela promoted further development mainly in the
rt sectors, with the result that there was a wide gap
veen the rate of increase of the capacity to import and
rate of growth of the product.[6] In this context, the
situation of Mexico and Peru is midway between the two extremes just described.

Lastly, import policy also played an important role in the determination of the various countries' positions. Although subject to official controls, the imports effected by Argentina and Brazil considerably exceeded the income available for financing them (see table 24). Hence these countries were able to achieve a higher increment in their gross product than would have been possible if, like the other Latin American republics under consideration, they had brought their expenditure abroad more closely into line with their capacity to import.[7]

If an examination is now made of the factors directly affecting the medium-term evolution of the capacity to import, it will be seen that a boom in exports played a decisive part in determining the three largest increases recorded, i.e., those registered in Mexico, Peru and Venezuela (see again figures XIII, XIV and XV). A considerable improvement in the terms of trade of the last-named country strengthened the effect of exports, or, in other words, of petroleum sales; but, on the other hand, the slight decrease in the net capital account balance and the

---

n expansion of production for export exerts a more decisive
ence on the capacity to import than on the gross product, as
ver-all growth of the latter is also dependent upon the
opment of the sectors concerned with the satisfaction of
stic demand.

[7] In both Argentina and Brazil, the excess of imports over the capacity to import was largely financed with short and medium-term foreign credits. At the present time the repayment of these credits is absorbing a large amount of foreign exchange which could otherwise have been utilized to finance purchases abroad.

Table 24. Latin America: Capacity to import, imports and balance-of-payments position in selected countries[a]

(Millions of dollars at 1950 prices)

Country	*Capacity to import*	*Imports*	*Balance-of-payments position*
Argentina	10,968	11,509	−541
Brazil	12,278	12,809	−531
Chile	3,076	3,179	−103
Mexico	7,962	8,014	− 52
Peru	2,377	2,385	− 8
Venezuela	9,162	8,684	+478

Source: ECLA, on the basis of data supplied by the International Monetary Fund.

[a] Cumulative statistics for the period 1946-55.

increase in the outflow of foreign exchange in the form of profits derived from international investments, helped to slow up to a considerable degree the rate of expansion of the capacity to import.[8] In Peru and Mexico, in contrast the favourable trend of sales abroad, to which, in the case of Mexico, was added a substantial increment in income from the tourist industry,[9] was accompanied by a greater flow of new capital, while only very minor fluctuations were recorded in the terms of trade. The less significant increases in the capacity to import of Brazil and Chile had their origin in a marked improvement in the terms of trade, the effect of which was, on the one hand, slightly intensified by the increment in foreign investment and, on the other, considerably offset by the decline in exports (see again figures XI and XII). The contraction of Argentina's capacity to import was the simultaneous result of a deterioration in the terms of trade and a heavy reduction of exports (see again figure X), the adverse influence of which was only partly counteracted by the cessation, from 1949 onward, of the considerable post-war outflow of funds to repay a large proportion of the long-term foreign debt.

The inter-country differences in the behaviour of exports which was favourable in Mexico, Peru and Venezuela and unfavourable in Argentina, Brazil and Chile—was largely due to circumstances beyond the country's control or to sheer chance.[10] However, national economic policy itself also played an important part in the med
term evolution of sales abroad.

In Peru and Venezuela, the systematic encourage
of primary production and of foreign investment thr
a system of free exchange and trade was mainly refl
in increased availabilities of export commodities.
over, in Mexico the uninterrupted development of e
activities was stimulated and made possible without
riment to the acceleration of progress in other sec
by three factors. These were a substantial increa
public and private investment in the various branch
the economy; a moderate expansion of consumptio
the part of the mass of the population,[11] and three d
uations of the peso, in 1948, 1949 and 1954, havin
their purpose the closer adjustment of the exchange
to world market conditions and to the domestic mon
situation.

In Brazil and Chile, on the contrary, the fact that
favourable treatment was accorded to industry tha
agriculture and mining, the measures adopted to rais
consumption of the lower income sectors at a rapid
and the policy of moderate over-valuation of the exch
rate pursued in certain cases to keep down prices of
materials and imported foodstuffs,[12] cause the declin
stagnation of certain secondary or marginal expo
The direction taken by Argentina's economic p
during the period under review meant that almost all
of production for export either remained stationar
followed a downward trend.[14] In order to foster indu
alization and raise the standard of living of the popula
the Argentine authorities fixed very low prices for
cultural products, which was possible only by means
increasingly high over-valuation of the exchange
For example, the production of meat, and especiall
cereals, came to offer very few incentives, while, on
other hand, there was a considerable increase in consu
tion of these basic foodstuffs, which are tradition
Argentina's staple export commodities. This account
the devaluation of the exchange rate in October 19

---

[8] As regards the decrease in the net balance of Venezuela's capital account, it should be made clear that this is not a reflection of the trend of total foreign investment, which was, in fact, maintained at a very high level throughout the whole period, mainly by virtue of the increase in reinvestment in the petroleum sector.

[9] This is a feature peculiar to the situation in Mexico. Income from the tourist industry grew by some 160 million dollars during the period as a whole, while commodity sales increased by approximately 310 million dollars.

[10] The circumstances referred to are well-known. It is enough to recall here the larger world wheat harvest, which adversely influenced the volume of Argentina's exports. On the other hand, the exceptional expansion of world demand for petroleum in the case of Venezuela, and an unusually favourable geographical position from the standpoint of the tourist industry in that of Mexico, contributed to the boom in exports. Furthermore, the wide variety of the natural resources—both agricultural and mining—of Mexico and Peru facilitated the diversification of exports, so that the possibilities of expanding their volume greatly increased.

[11] See the *Economic Survey of Latin America 1951, op. cit.* p
chapter II, pp. 75, *et seq.*, and *Economic Survey of Latin Am*
1955, op. cit., part I, chapter I, pp. *18 et seq.*

[12] See *Economic Survey of Latin America, 1955, op. cit.* p
chapter I, pp. *13 et seq.*

[13] Both coffee and copper, which are by far the most impo
export commodities in Brazil and Chile respectively, were
affected by the policy described. In the first place, produ
costs for these two commodities are much lower than those
other export lines and, consequently, a moderate over-valuat
the exchange rate places no difficulties in the way of their
abroad. On the other hand, coffee is not an industrial
material, neither is it an essential consumer good. The volu
coffee exports was slow to react to the stimulus given b
marked rise in prices as from 1950, partly because of the fo
five year interval which must elapse between the time whe
trees are planted and the date when production for the m
begins. With respect to copper, domestic consumption incr
to some extent, owing to the industrialization of the C
economy, but continued to represent a very small proport
the output; apart from this production evolved mainly in ac
ance with the trade and investment policy of the foreign c
companies. Lastly, labour surpluses in rural areas enabled
countries to develop industry without reducing the numb
workers employed in the copper and coffee sectors.

[14] See the article "The situation in Argentina and the
economic policy", in the *Economic Bulletin for Latin Am*
vol. I, No. 1, Santiago, Chile, January 1956, pp. 26 *et seq*

sure designed to permit the fixing of prices which ld encourage agricultural and livestock production the consequent expansion of exportable surpluses and ie capacity to import.

s was the case with exports, the evolution of the terms ade—another factor strongly influencing the medium- movements of the capacity to import—differed one country to another. But in this instance such rgencies originated to a much greater extent than re exports were concerned, in certain external circum- ces which the Latin American republics are not in a tion to determine or influence. Among them, for mple, were industrial expansion in Europe and the ted States—the main determinant of the rise in the e of Chilean copper—and the increase in world con- ption of coffee and petroleum, which, on account of higher prices of these two commodities, made an out- ding contribution to the great improvement in the is of trade of Brazil and Venezuela. Similarly, but time in an unfavourable sense, foreign demand ed a very important part in the serious deterioration, he terms of trade, of Argentina, the only country ng the six under review where such a deterioration registered. Indeed, some of Argentina's agricultural rts were among the few primary commodities for h world demand expanded proportionately less than luction and prices fell considerably.[15]

n some cases, action taken by the countries themselves ienced the evolution of the terms of trade. For mple, in so far as the diversification of sales abroad a consequence of national economic policy, the latter be said to have constituted an indirect form of pro- ion against the deterioration of the terms of trade in ico and in Peru. What happened was that as a result his diversification of exports, the considerable decline ie prices of zinc and lead—staple export commodities oth these countries—was offset in greater or lesser ee by the rise in coffee prices, as far as Mexico was cerned, and by higher quotations for copper and oleum in the case of Peru.[16]

n contrast, the policy of bilateralism in trade, which in post-war years had offered certain advantages because he shortage of convertible currencies and of many cultural commodities became increasingly unsatis- ory and contributed to the deterioration in Argentina's is of trade. Argentina's trade and financial position gressively weakened and in the course of its bilateral otiations it had to submit to the over-pricing of im- s without always being able to obtain compensation he export prices side. In 1956 Argentina decided to r its trade policy in the direction of multilateralism, ly with a view to remedying these drawbacks.

Unlike exports, and, in a lesser degree, the terms of trade, the movements of the capital account did not as a rule have any very considerable direct effect on the medium-term evolution of the capacity to import. Indirectly, however, they played an important role in several instances. In Argentina, the maturing of the foreign investments placed at the beginning of the period 1946-55 involved the outflow of a substantial amount of foreign exchange, which was offset only by the purchase of ownership rights over goods already installed in the country. Otherwise this foreign exchange could have been utilized to finance imports of capital goods by means of which advanced farming techniques could have been introduced on a more extensive scale.[17] In Venezuela, on the other hand, a very large volume of foreign investment was registered between 1946 and 1949, almost entirely in the export sectors, and this made a highly significant contribution to the boom in sales abroad in subsequent years. A similar development took place in Peru, although it was less pronounced from 1950-51 onwards. It should be added that in no case did the increase in remittances of profits on foreign investment offset to any great extent its favourable influence on exports, largely because of the growing importance of reinvestment (see especially figure XV).

The fact that the flow of foreign capital was greater in absolute or relative figures in Mexico, Peru and Venezuela, where exchange controls were not applied,[18] than in the other countries where such controls existed, seems to suggest that a rather close positive co-relationship has developed between the freedom from exchange controls and the inflow of foreign capital.[19] Clearly other contributing factors also came into play, in particular the opportunities offered by natural resources, by fiscal and monetary policy, etc. Foreign investment in Brazil, which was chiefly concentrated in industry, increased considerably in spite of having been subject to certain restrictive regulations. There can be no doubt that the rapid development of Brazil's economy and the encouraging prospects opened up by the size of its market carried more weight than the economic and exchange régime in determining the decisions of foreign investors.

The foregoing analysis of the evolution of the capacity to import in selected Latin American countries during the period 1946-55 as a whole throws into relief the significant part played by internal conditions in this evolution. Of outstanding importance were changes in primary production, the policy of industrialization, the rate of growth of consumption of the mass of the population, the exchange régime and the foreign investment pattern. Although more thorough research would be necessary before more precise and generally applicable conclusions could be

---

It should be pointed out that, although Argentina was not a atory of the International Wheat Agreement during the od under review, the operations carried on under that Agree- indirectly exerted a favourable influence on Argentine export s, since they prevented a still greater fall in world quotations, ite the steadily increasing overproduction. In 1956 Argentina ded to the Agreement.

The International Sugar Agreement, of which Peru is a atory, also prevented a serious decline in the price of this rt commodity. From the standpoint of the volume exported, ever, the assignment of an export quota to Peruvian sugar y offset this advantage.

[17] The failure to introduce advanced agricultural techniques on an adequate scale contributed to the stagnation of production in this sector.

[18] The free-trade régime was established in Peru at the end of 1949.

[19] In several cases complete liberalization of exchange policy is difficult to put into effect because of the basic inadequacy of the capacity to import and/or the existence of an acute inflationary process. However, until more normal conditions are restored, a policy might conceivably be adopted which would grant more liberal treatment to financial than to trade transactions. Argentina and Brazil have of late directed their efforts towards this end.

reached, stress may be laid on the fact that any measure aimed at changing the conditions indicated is liable also to influence the capacity to import.

To judge by the examples studied, the behaviour of the market and of the world market prices of Latin America's exports, which are for the most part primary commodities,[20] undoubtedly constituted the preponderant factor in the evolution of the capacity to import. Hence any expansion of this capacity mainly depends on the world economic situation and is therefore beyond the control of the Latin American countries. But a policy is conceivable whose objectives would be to reduce the effect of medium-term variations in the world economic situation and to turn them to the best possible account by adjusting the commodities offered on the world market to fluctuations of this kind.

The experience of Mexico and Peru indicates that the first of these objectives can be achieved through the diversification of exports. The second implies the expansion of exportable surpluses of certain commodities at the expense of others, or the offer of new goods in accordance with fluctuations in world market demand for the various primary commodities, so as to take the greatest possible advantage of external conditions. Both the diversification of sales abroad and medium-term changes in the structure of exports, together with the creation of new export lines, apart from calling for suitable natural resources, presuppose a high degree of mobility on the part of capital and labour, a great capacity for reorganization and flexibility of technical knowledge.

Obviously, if the capacity to import is to be improved, a rise in average export prices is not enough; a further requisite is that prices of imports should not increase more than those of exports. Hence arises the problem of the evolution of the terms of trade in under-developed countries, and the experience of the period 1946-55 shows that the behaviour of this factor was favourable in three of the six countries studied, that it remained stationary in two others and that it seriously deteriorated in the sixth. It should be emphasized, however, that these were medium-term, not long-term trends, and were considerably affected by several transient factors, above all the special circumstances prevailing during the war and in the post-war years. At all events, it is plain that the policy of the peripheral countries can affect import prices up to a point, although they are mainly determined by the situation in the highly-developed centres. The experience of Argentina during the second half of the period 1946-55 seems to suggest that under certain conditions and in those countries whose bargaining power is not very strong, bilateralism in trade is apt on the whole to raise import prices.[21]

II. ANNUAL VARIATIONS IN THE CAPACITY IMPORT DURING 1946-55

From the point of view of economic development, an
variations in the capacity to import are much less
portant than its medium-term variations. When
are very wide, however, they may have disturbing e
on economic policy and on the decisions reached by e
preneurs, and may militate against the orderly an
ordinated growth of economic activity. Moreover, a
be seen later,[22] a sudden fall in income from ext
sources may lead in given conditions to the stagnati
short-term contraction of total income.

With respect to annual variations in the capacit
import during the period 1946-55, the positions o
different countries studied diverged more or less wi
In Argentina and Chile (see tables 25 and 27) incr
and decreases were registered in the course of the pe
the latter strongly predominating in the case of Argen
In Brazil (see table 26) the downward movements o
capacity to import were less numerous but very marke
occasion. On the contrary, in Mexico, and above a
Venezuela (see tables 28 and 30), the capacity to im
almost invariably expanded, and on the rare occa
when it declined it did so in a much lesser degree th
the case of Brazil. As can be seen in table 29, P
situation was a little less favourable.

Of course the behaviour of the capacity to im
influenced the evolution of imports and of the balan
payments. As can be seen in the tables mentioned
imports of Argentina, Brazil and Chile often fluctu
Yet, undoubtedly owing to the policy of always me
the most essential import requirements, heavy balanc
payments deficits were recorded in a number of insta
more than offsetting the surpluses registered on
occasions, especially in Argentina and Brazil. On
other hand, the relatively favourable development o
capacity to import allowed Peru and Mexico to bring
purchases abroad fairly closely into line with the in
available for financing them. This happened year
year in the first country mentioned, while in the se
deficits in some years were counterbalanced by surp
in others. Lastly, the very marked and almost uni
rupted increases in Venezuela's capacity to import
mitted imports to expand regularly with no negative
on the balance of payments, which almost always sh
a surplus, and often a very large one.

An examination of the causes of annual variations i
capacity to import will show that in certain countrie
role of fluctuations in the capital account was relat
important.[23] However, broadly speaking, the volu

---

[20] Sales of industrial commodities are relatively small as yet in proportion to total exports. Except in the case of certain commodities the industries of the countries under review will have to pass through another stage of development before they can count on large exportable surpluses and above all before they can offer competitive prices.

[21] The foregoing discussion touches only upon the dependence of the capacity to import on external circumstances, through the volume of exports and the terms of trade. This aspect, however, although undoubtedly the most important during the period 1946-55, is not the only one that must be borne in mind. External circumstances also influenced the capital account. In particular, the development of the financial market in the industrial c
and the policy both of foreign investors and Governments a
the international financial agencies were factors of conside
weight in the behaviour of this account.

[22] See part Three, study referred to in footnote 1.

[23] The variable nature of private long-term capital contrib
greatly affected the fluctuations in the capital account, espe
in Venezuela, Peru, Mexico and Chile. Also of importance in
last two countries were speculative movements of short
capital. The wide variations in Argentina's capital account
beginning of the period 1946-55 were due to the maturing of a
amount of long-term debts in 1946 and 1948, as has already
mentioned.

Table 25. Argentina

(a) ANNUAL VARIATIONS IN THE CAPACITY TO IMPORT AND ITS DIFFERENT COMPONENTS

(Millions of dollars at 1950 prices)

Year	*Capacity to import*		*Exports*	*Terms-of-trade effect*	*Capital account net balance*	*Profits from foreign investments*
	Absolute figures	*Percentages*				
1947	+698	+65	− 49	+456	+211	+80
1948	−693	−39	−398	−207	−183	+95
1949	− 47	− 4	−159	−362	+473	+ 1
1950	+193	+19	+157	+ 17	+ 13	+ 6
1951	−123	−10	−264	+ 87	+ 74	−20
1952	−530	−48	−183	−270	− 93	+16
1953	+526	+91	+344	+183	+ 2	− 3
1954	− 67	− 6	+ 59	−114	− 6	− 6
1955	− 98	− 9	− 63	− 22	− 11	− 2

(b) CAPACITY TO IMPORT, IMPORTS AND BALANCE-OF-PAYMENTS POSITION

(Millions of dollars at 1950 prices)

Year	*Capacity to import*	*Imports*	*Balance-of-payments position*
1946	1,078	842	+236
1947	1,776	1,843	− 67
1948	1,083	1,671	−588
1949	1,036	1,131	− 95
1950	1,229	1,014	+215
1951	1,106	1,255	−149
1952	576	871	−295
1953	1,112	792	+320
1954	1,035	958	+ 77
1955	937	1,132	−195

Source: ECLA, on the basis of data supplied by the International Monetary Fund.

Table 26. Brazil

(a) ANNUAL VARIATIONS IN THE CAPACITY TO IMPORT AND ITS DIFFERENT COMPONENTS

(Millions of dollars at 1950 prices)

Year	*Capacity to import*		*Exports*	*Terms-of-trade effect*	*Capital account net balance*	*Profits from from investments*
	Absoluet figures	*Percentages*				
1947	− 53	− 5	−222	+171	− 11	+ 9
1948	−150	−15	− 22	− 33	− 57	−38
1949	+ 42	+ 5	−174	+159	+ 57	—
1950	+283	+31	−226	+637	−101	−27
1951	+254	+21	+118	+ 3	+153	−20
1952	−360	−25	−242	− 81	− 34	− 3
1953	+392	+36	+172	+166	+ 76	−22
1954	+100	+ 7	−156	+212	+ 17	+27
1955	−103	− 6	+186	−284	− 20	+15

(b) CAPACITY TO IMPORT, IMPORTS AND BALANCE-OF-PAYMENTS POSITION

(Millions of dollars at 1950 prices)

Year	*Capacity to import*	*Imports*	*Balance-of-payments position*
1946	1,086	800	+286
1947	1,033	1,159	−126
1948	883	965	− 82
1949	925	1,006	− 81
1950	1,208	1,188	+ 20
1951	1,462	1,780	−318
1952	1,102	1,514	−412
1953	1,494	1,355	+139
1954	1,594	1,640	− 46
1955	1,491	1,402	+ 89

Source: ECLA, on the basis of data supplied by the International Monetary Fund.

Table 27. Chile

(a) ANNUAL VARIATIONS IN THE CAPACITY TO IMPORT AND ITS DIFFERENT COMPONENTS

(Millions of dollars at 1950 prices)

Year	Capacity to import		Exports	Terms-of-trade effect	Capital account net balance	Profits from foreign investments
	Absolute figures	Percentages				
1947	−22	− 9	−19	+11	− 5	− 9
1948	+69	+31	+20	+11	+48	−10
1949	+ 4	+ 1	−76	+11	+50	+19
1950	−12	− 4	+ 2	+35	−51	+ 2
1951	+59	+21	+ 7	+31	+24	− 3
1952	+26	+ 7	+ 3	+28	−14	+ 9
1953	−32	− 8	−82	+ 6	+32	+12
1954	− 9	− 3	+89	−23	−70	− 5
1955	+81	+25	+ 5	+48	+38	−10

(b) CAPACITY TO IMPORT, IMPORTS AND BALANCE-OF-PAYMENTS POSITION

(Millions of dollars at 1950 prices)

Year	Capacity to import	Imports	Balance-of-payments position
1946	240	303	−63
1947	218	297	−79
1948	287	279	+ 8
1949	291	300	− 9
1950	279	274	+ 5
1951	338	336	+ 2
1952	364	346	+18
1953	332	335	− 3
1954	323	330	− 7
1955	404	379	+25

Source: ECLA, on the basis of data supplied by the International Monetary Fund.

Tabel 28. Mexico

(a) ANNUAL VARIATIONS IN THE CAPACITY TO IMPORT AND ITS DIFFERENT COMPONENTS

(Millions of dollars at 1950 prices)

Year	Capacity to import		Exports	Terms-of-trade effect	Purchasing power of tourist industry	Capital account net balance	Profits from foreign investments
	Absolute figures	Percentages					
1947	− 39	− 7	+ 65	−10	−31	− 23	−40
1948	+ 75	+14	− 57	+47	+49	+ 21	+15
1949	+ 29	+ 5	+ 72	−68	− 3	+ 11	+17
1950	+234	+36	+ 64	+16	+46	+128	−20
1951	+ 13	+ 1	+ 23	+46	+ 3	− 46	−13
1952	− 33	− 4	+ 1	+ 6	+10	− 25	−25
1953	+ 21	+ 2	+ 65	−96	+42	− 16	+26
1954	+ 49	+ 6	+ 3	+34	+19	− 12	+ 5
1955	+202	+22	+152	−59	− 6	+113	+ 2

(b) CAPACITY TO IMPORT, IMPORTS AND BALANCE-OF-PAYMENTS POSITION

(Millions of dollars at 1950 prices)

Year	Capacity to import	Imports	Balance-of-payments position
1946	581	763	−182
1947	542	755	−213
1948	617	670	− 53
1949	646	582	+ 64
1950	880	693	+187
1951	893	906	− 13
1952	860	871	− 11
1953	881	906	− 25
1954	930	940	− 10
1955	1,132	928	+204

Source: ECLA, on the basis of data supplied by the International Monetary Fund.

Table 29. Peru

(a) ANNUAL VARIATIONS IN THE CAPACITY TO IMPORT AND ITS DIFFERENT COMPONENTS

(Millions of dollars at 1950 prices)

Year	*Capacity to import*		*Exports*	*Terms-of-trade effect*	*Capital account net balance*	*Profits from foreign investments*
	Absolute figures	*Percentages*				
1947	+52	+32	−30	+62	+12	+8
1948	−70	−33	−4	−48	−19	+1
1949	+35	+24	+35	+1	−1	—
1950	+20	+11	−6	+34	−9	+1
1951	+98	+49	−2	+59	+53	−12
1952	−22	−7	+50	−67	−8	+3
1953	+23	+8	+33	−30	+21	−1
1954	—	—	+14	+15	−28	−1
1955	+23	+8	+23	+3	−1	−2

(b) CAPACITY TO IMPORT, IMPORTS AND BALANCE-OF-PAYMENTS POSITION

(Millions of dollars at 1950 prices)

Year	*Capacity to import*	*Imports*	*Balance-of-payments position*
1946	161	172	−11
1947	213	210	+3
1948	143	144	−1
1949	178	171	+7
1950	198	208	−10
1951	296	286	+10
1952	274	276	−2
1953	297	305	−8
1954	297	286	+11
1955	320	327	−7

Source: ECLA, on the basis of data supplied by the International Monetary Fund.

Table 30. Venezuela

(a) ANNUAL VARIATIONS IN THE CAPACITY TO IMPORT AND ITS DIFFERENT COMPONENTS

(Millions of dollars at 1950 prices)

Year	*Capacity to import*		*Exports*	*Terms-of-trade effect*	*Capital account net balance*	*Profits from foreign investments*
	Absolute figures	*Percentages*				
1947	+200	+44	+26	+108	+157	−91
1948	+285	+44	+151	+191	+97	−154
1949	+6	+1	−76	+15	−58	+125
1950	−166	−18	+175	+48	−267	−122
1951	+75	+10	+146	−74	−6	+9
1952	+191	+22	+97	−30	+133	−9
1953	+62	+6	+50	+30	−12	−6
1954	+23	+2	+52	+89	−91	−27
1955	+165	+15	+219	+32	−2	−84

(b) CAPACITY TO IMPORT, IMPORTS AND BALANCE-OF-PAYMENTS POSITION

(Millions of dollars at 1950 prices)

Year	*Capacity to import*	*Imports*	*Balance-of-payments position*
1946	450	403	+47
1947	650	630	+20
1948	935	799	+136
1949	941	877	+64
1950	775	856	−81
1951	850	833	+17
1952	1,041	955	+86
1953	1,103	960	+143
1954	1,126	1,127	−1
1955	1,291	1,244	+47

Source: ECLA, on the basis of data supplied by the International Monetary Fund.

exports and the terms of trade exerted a much greater influence than the capital account on the short-term evolution of the capacity to import. The behaviour of both these factors, but especially of the former, varied considerably from one country to another. The feature common to Argentina, Brazil, Chile, Mexico, Peru and Venezuela—namely, that they are almost exclusively exporters of primary commodities and largely importers of manufactured goods—undoubtedly had certain overall repercussions on the volume of exports and on foreign trade prices, for example, at the beginning and immediately after the end of hostilities in Korea. But on many occasions there were special factors which counteracted or intensified these repercussions, thus helping to impart to the annual movements of each country's capacity to import the individual characteristics indicated above.

In the first place, the evolution of markets and prices did not take the same direction for all the primary commodities. In fact, in the course of the period 1946-55 both prices and demand for Venezuela's petroleum almost invariably increased, whereas the behaviour of the market for Argentine wheat was unfavourable in most cases. World quotations for Brazilian coffee fluctuated widely.

Annual movements in production, and therefore in exportable surpluses, were due to specific local circumstances in each of the individual countries. Among these factors[24] should be mentioned adverse weather conditions, which seriously affected exports from countries where agricultural commodities predominate as, for instance, Argentina and Brazil; they affected the sales of Peru and Mexico, which comprise mainly ores, to a lesser extent and Venezuela's exports, of which petroleum accounts for some 98 per cent, only to a negligible extent. In 1951 and 1952, for example, Argentina suffered a serious drought, which caused a sharp drop in agricultural production and, by reducing the exportable surpluses, was partly responsible for the contraction in sales abroad.

Lastly, there was a similar lack of uniformity in the pattern of exports in the countries under review. It has already been stated that exports were much more diversified in Mexico and Peru than in Argentina, Brazil and Chile. (see table 31). Consequently, their global volume proved less sensitive to the unfavourable circumstances, whether external or internal, which affected certain individual export commodities. This was partly the reason why the decreases registered some years in Peruvian and Mexican sales abroad were smaller than those recorded for Argentina, Brazilian and Chilean exports (see a tables 25, 26 and 27).

This last fact deserves emphasis because the diversi tion of sales abroad—which, as has been seen, may to mitigate the short-term instability of the capacit import—is, in contrast with the evolution of the w market, to some extent dependent on the direct ac taken by the countries themselves.

As regards the limitations of the Latin American c tries' ability to influence the evolution of the w market, it is important to recall the following even Brazil and Chile. The former, in view of the sharp in the export price of coffee at the beginning of 1954, t to stabilize it through the fixing of a minimum price. measure at once resulted in a considerable contractic sales, and the adverse economic effects of the resul loss of foreign exchange, together with the impossibili financing the accumulated stocks, obliged Brazil, in 1 to offer larger quantities of coffee for sale at the lo world market price. Something similar occurred in (in 1953 and 1954, when attempts were made to keep price of copper above the world market level.

The experiences of Brazil and Chile suggest that in vention in the evolution—even over the short term the capacity to import through unilateral protectio the terms of trade is hardly likely to be successful policy of this type may lead to a more or less compensa decrease in the volume of sales abroad, if the ove situation of the world economy or of the market for commodity concerned is such that the elasticity of for demand is high. Moreover, despite their importanc world exporters of coffee and copper, Brazil and Chile not sufficient financial resources, and were too depen on the rest of the world for the maintenance of their l of economic activity, to be able to exert any lasting fluence on the evolution of world prices.[25] Agai should be pointed out that a policy of high prices, ev advantageous or effective over the short term, in the r distant future involves the risk of a substitution proc

Table 31. Latin America: Diversification of exports in selected countries[a]

	Peru		*Mexico*		*Argentina*		*Brazil*		*Chile*	
	1946	*1955*	*1946*	*1955*	*1946*	*1955*	*1946*	*1955*	*1946*	*19*
Agricultural commodities	64(2)	39(2)	16(2)	44(2)	55(6)	70(6)	55(3)	74(3)	...	..
Mining commodities	10(4)	28(4)	27(4)	26(4)	...	...	...	2(1)	64(2)	77

Source: ECLA.

[a] Percentage share of export commodities by groups, in total value of exports. The number of commodities to which the percer relates is given in parentheses.

---

[24] In section I of this chapter consideration has already been given to other factors, such as over-valuations or devaluations of the exchange rate, the policy of industrialization, etc., which also influenced the annual movements of exportable balances.

[25] In the case of copper and some agricultural commodities marketing of part of the United States strategic or other s piles could at any time completely neutralize efforts to mai the world price of such articles at a high level.

[26] With respect to the substitution process in the case of ce primary commodities, especially coffee and copper, see the a "Recent trends in the exports and prices of some products" i *Economic Review of Latin America*, special issue, Bogotá, Colo August 1955, pp. 25 *et seq.* (for coffee see pp. 25-30, and for co pp. 32-35). As regards cacao, see also the article "Recent t in the exports and prices of some products", in the *Econ Bulletin for Latin America*, vol. I, No. 1, pp. 69 *et seq.*, specifically, the section entitled "Impact of price increases o consumption of cacao", pp. 73 to 75.

e danger that customers or competitors may increase own production in the lines concerned. In regard to policy deriving from the international stabilization ements, which is intended to protect the interests of rting and importing countries alike, the facts set forth in this chapter are too scanty for any pertinent observations to be made. The Sugar Agreement was important only to Peru and only relatively important at that. As was already pointed out, the Wheat Agreement had only an indirect effect on Argentine export prices.

Part Two

TRENDS OF THE MAIN PRODUCTION SECTORS

Chapter I

AGRICULTURE

I. GENERAL SITUATION

uring 1956 agricultural activities in Latin America he unfavourable impact of domestic and, occasionally gn factors which temporarily frustrated the efforts of ernments to expand production and improve effiy.

ost countries suffered serious losses in production on unt of the weather. In some, only specific crops affected, like wheat in Argentina, coffee, cotton and r cane in Brazil, cotton in Colombia, Mexico and Nicaa, rice in Chile and bananas in Costa Rica and Pana- In others, all farming and livestock production ughout vast areas suffered a setback. A case in point e drought which afflicted the dry farming areas and hern irrigated zones of Mexico, the southern part of ierra in Peru and a major part of Bolivia's highlands valleys.

e bleak outlook for some commodities on the world ket, due to the competition among exporter countries nd outlets for accumulated surpluses and the unuy favourable terms which many of them offered, d several Latin American countries to limit the area r export crops and to abandon the cultivation of ginal land.

e price situation was unfavourable too, since market quotations for all export commodities—save coffee and sugar—either improved very little or dropped substantially. In addition, prices for agricultural and animal products rose less than proportionally in comparison with other commodities so that the terms of trade for agriculture deteriorated sharply.

Under these circumstances, Latin America's agricultural production fell off by about 1.5 per cent from the satisfactory level of the previous year, though it still maintained a sizable margin over that of 1954 (see table 32). *Per capita* production declined to the 1953 and 1954 figure, which was 5 per cent lower than that obtaining in the pre-war period.

As in previous years, greater importance was probably attached to production for domestic consumption, in an endeavour to supply a growing volume of demand as completely as possible. Thus a 3 per cent increase was registered in this sector, which was also due to the continuation of the development policy for some crops whose production was inadequate, such as wheat in Brazil, Colombia, Mexico and Paraguay; sugar in Bolivia, Chile and Uruguay; and edible oil seeds in most countries. To judge by the slight increment in *per capita* production in this sector, a larger volume of goods for domestic consumption was available than in 1955 (see table 33), but it was not possible to satisfy fully the additional demand for foodstuffs

Table 32. Latin America: Volume of agricultural and livestock production

(1950 = 100)

Production	*1951*	*1952*	*1953*	*1954*	*1955*	*1956*
Total agricultural and livestock	103.2	101.8	110.1	112.9	120.0	118.2
Per capita	100.7	97.0	102.4	102.5	106.5	102.4
Foodstuffs	104.5	100.2	111.4	113.2	118.8	120.0
Per capita	102.0	95.5	103.6	102.8	105.4	104.0
Cereals	113.2	88.4	130.9	130.3	137.8	130.9
Roots and tubers	105.2	101.7	111.3	118.2	118.5	117.5
Dry vegetables	99.2	94.0	108.0	119.5	114.0	114.4
Oil seeds and oil-bearing plants	115.9	114.6	99.6	107.1	106.7	131.5
Sugar and panela	106.7	122.8	107.9	109.2	107.5	110.5
Fruit	102.1	109.8	111.9	116.2	122.0	129.9
Vegetables	100.1	105.4	117.9	123.5	131.3	112.8
Animal products (meat)	98.3	97.6	97.9	98.5	104.9	109.8
Wines	94.0	83.2	103.8	91.4	132.1	133.2
Cacao	86.3	87.1	92.8	108.4	112.8	110.3
Stimulants	100.2	107.2	108.4	108.3	123.0	108.8
Per capita	97.8	102.2	100.8	98.4	109.1	94.3
Raw materials	97.4	107.1	102.3	115.7	125.3	115.9
Per capita	95.0	102.1	95.2	105.1	111.2	100.4
(1) Fibres	98.1	111.8	103.9	121.1	131.8	122.8
(2) Industrial oil seeds	92.2	69.7	94.7	72.6	73.3	61.1

Source: ECLA, on the basis of official data.

Table 33. Latin America: Volume of production of commodities intended mainly for export compared with volume of commodities intended for domestic consumption

(Thousands of tons)

	1949/50	*1950/51*	*1951/52*	*1952/53*	*1953/54*	*1954/55*	*1955/56*
Commodities intended mainly for export							
Wheat [a] . .	5,596	6,231	2,578	7,849	7,019	8,544	6,090
Maize [b] . . .	836	2,680	2,040	3,550	4,450	2,546	3,870
Wool [c] . . .	263	274	260	281	279	263	255
Linseed [c] . .	751	649	455	693	475	468	294
Coffee [d] . . .	1,779	1,754	1,945	1,920	1,886	2,184	1,891
Sugar [e] . . .	6,459	6,763	8,283	6,392	6,136	5,818	6,089
Cotton [f] . .	732	737	889	764	944	1,088	974
Bananas [g] . .	96,677	97,973	104,711	109,026	106,596	118,081	122,987
Henequen [h] .	101	95	97	91	105	111	113
Sisal [i] . . .	53	55	64	66	65	90	92
Castor oil [i] .	184	177	158	161	170	164	169
Tobacco [j] . .	42	36	36	38	38	40	29
Cacao [k] . . .	193	161	155	173	207	197	195
				(Index: 1949/50 = 100)			
Production for export							
Total		104.1	104.7	112.8	114.2	122.8	111.8
Per capita .		101.6	99.8	104.9	103.7	109.0	96.9
Production for domestic consumption							
Total		102.7	100.2	108.6	112.2	118.4	121.7
Per capita .		100.2	95.5	101.0	101.9	105.1	105.5

Source: ECLA, on the basis of official production statistics. In the calculation of indices production was weighted by 1948 world market dollar prices.

[a] Argentina and Uruguay.

[b] Argentina.

[c] Argentina and Uruguay.

[d] Brazil, Colombia, Ecuador, Haiti, Mexico, Dominican Republic, Venezuela, Costa Rica, El Salvador, Guatemala, Honduras and Nicaragua.

[e] Cuba, Dominican Republic and Peru.

[f] Brazil, Mexico, Nicaragua and Peru.

[g] Thousands of stems; Colombia, Costa Rica, Ecuador, Guatemala, Honduras, Mexico and Panama.

[h] Mexico.

[i] Brazil.

[j] Cuba.

[k] Brazil, Ecuador and Venezuela.

caused by the rapid growth of the population and the rise in income. Therefore increasing recourse was had to foreign sources in order to obtain the foodstuffs which domestic agriculture failed to produce in sufficient quantity. Thus, from 1948-50 to 1954-55 Latin American food imports rose from 711.2 to 908 million dollars (at 1950 prices), or by 28 per cent. The few data available for 1956 show that there has been no slackening in the rate of expansion of such trade.

Aggregate production for export experienced one of the sharpest downturns of the post-war period, dropping by 9 per cent in comparison with 1955, while *per capita* production reached the lowest level of the last 15 years.[1] In view of the fact that practically all export products showed sizable decreases, the exportable balances for the trade year 1956/57, particularly in the case of coffee, cotton and wheat, will be rigorously reduced (see again table 33).

The situation can be ascribed to two main fact weather conditions and the unfavourable world mar prospects which induced many countries to restrict p duction. In Mexico the drop in cotton prices combi with a curtailment of credit for marginal producers cause a contraction of 21 per cent in the area sown cotton. In Central America, producer countries limited area under cultivation. Uruguay, which only a few ye ago became a regular wheat exporter, reduced the guar tee price for this cereal by 13 per cent in an attemp discourage less efficient farmers, albeit unsuccessfu because sowings expanded by 4 per cent. The Gove ment cut the price still further, at least provisionally, the 1956/57 farm year and the area under wheat has th by declined by 18 per cent.[2]

A notable development in this sector was the par recovery of sugar production. The favourable state of world market enabled Cuba to sell part of the surplu ed over since 1952[3] and to expand the area under to slightly more than 900,000 hectares, which is per cent larger than that sown in 1955. Owing to bad her, only 4.74 million tons were harvested, equivalent 4.7 per cent increase over the previous year. The inican Republic was able to increase production to 00 tons (6 per cent more than in 1955) thanks to the r quota obtained from the International Sugar Agree- . Central America's production of bananas rose by cent because the new plantations, which had been ely damaged by hurricanes in previous years, ered most satisfactorily. The greatest progress was in Honduras and Panama.

---

[1] The index of *per capita* production for the export sector was only 96.9 (1950 = 100).

[2] On 1 August 1956 Cuban stocks had dropped to about half volume to hand on 31 December 1955.

II. SITUATION BY COUNTRIES

e general stagnation of production appears more rkable when an analysis is made of the state of ulture in individual countries. The volume of *ntina's*[4] production in 1956 was 1.4 per cent larger that of the previous year on account of a marked ase in livestock production, which set a record of illion tons of beef with a slaughter of 11.7 million (23 per cent above the high 1950 level). In point of the expansion of beef output, particularly in the case w-quality cross breeds, seems to have been due to artial depletion of the large cattle stocks reared to it from relatively favourable prices in previous years. this volume of production, combined with relatively fluctuations in the slaughter of sheep and pigs, the rt volume of animal products rose by 39 per cent een 1955 and 1956, although prices were much lower. tock production could have expanded still more had uate transport facilities been available. When the price policy was adopted in September 1955, price s returned to pre-war levels, with an ample margin vour of crops. As a result, crop farming encroached e area formerly used for pasture.

ce at that time winter crops were already sown and and had been tilled for spring and summer produce, ift in policy benefited only the crops which obtained ighest relative price gains. Thus, the areas sown sunflower seed and peanuts expanded by 116 and r cent respectively, in contrast with a 55 per cent ase for maize. Prompted by the price incentive, ers sowed these two crops on land which was not dy under maize and even undertook late sowings on tubble left by cereals and linseed. With a volume of 00 tons, the sunflower seed harvest was the largest 1950/51 and surpassed the previous year's small est by 149 per cent. The peanut harvest set a new d: 216,200 tons as against only 118,000 in 1955.

oduction of linseed, which was a staple export prior e war, dropped to its lowest level in the past 40 . Owing to low relative prices for this commodity, reas sown contracted by 9 per cent which, in conjunction with bad weather conditions, reduced the harvest to only 238,000 tons as against 405,000 tons in 1955.

In *Brazil*, agricultural production in 1956 fell by 5.3 per cent in comparison with the good harvest of the previous year, although it was still 8 per cent higher than in 1954 and 21 per cent above that of 1950.

The decline in Brazilian production meant that the steady progress observable since 1948 came to a halt, though no serious disequilibrium was apparent in the country's farming activities as a whole, since *per capita* production was maintained above the 1950-54 average. The decline was due almost exclusively to poor harvests for the three main export crops: coffee, cotton and cacao. These, together with rye and peanuts, were the only ones to show a deterioration, although the proportion of export crops in the volume index lowered the total figure for the country.

The heavy frosts which destroyed plantations in the north of Paraná in August 1955 and the torrential and protracted rains, which fell in this zone and in the States of São Paulo and Minas Gerais during May and June 1956, reduced the coffee harvest from 1.37 million tons in the previous year to only 1.07 million, one of the lowest figures registered in the last five years. Yield per hectare was 318 kilogrammes, the lowest since 1939.

The world market situation had very little influence on the cotton crop, since Government policy of guaranteeing a minimum price enabled the area under cultivation in 1956 to remain almost the same as in 1955.[5] Yet the heavy rains which fell in the States of São Paulo and Minas Gerais in the middle of the harvest had a harmful effect not only on the quantity but also on the quality of the crop. Brazil's production, amounting to 423,943 tons of fibre, was only 1.1 per cent lower than in 1954, but the quality deteriorated to such an extent that the Government was obliged to limit exports of the better grades in order to safeguard domestic supplies.

Cacao production fell for the second consecutive time since the abundant harvest of 1954; its volume was no more than 154,619 tons in contrast to 162,947 in 1954 and 157,921 in 1955.

Other export commodities—bananas, pineapples, castor oil, tung and sisal—recorded improvements ranging from 2 per cent in the case of sisal to 9 per cent in the case of bananas.

The situation of commodities for domestic consumption is very different, since increased yield per hectare[6] resulted in rises of 5.5 and 5.4 per cent in agricultural and livestock production respectively. The *per capita* production index (1950 = 100) for this category of commodities rose to 114.5 per cent as against 111.1 in the preceding year.

Most crops for domestic consumption increased more or less and kept abreast of population growth, although some

---

efore the sowing period the price was fixed at 13 pesos per ilogrammes, but following the rise in production costs it ed the figure of 14 pesos again.

he volume index shows a slight increase, whereas the gross ct index registers a decline. This is due to the fact that in cond index the weighting of the livestock sector is different that in the first.

[5] There was a partial rearrangement in the geographical distribution of the crop. While the sowings were 9.7 per cent less in the State of São Paulo, the area sown in the States of Minas Gerais and Paraná, in the centre of the country, and of Río Grande do Norte and Ceará, in the north-east, was enlarged to offset the decline.

[6] 3.499 cruzeiros per hectare compared with only 3.377 cruzeiros for the agricultural sector in 1955.

exceeded it by an ample margin. Among these latter, special attention should be given to the 20 and 15 per cent increments in onion and tomato production, which amounted to 186,112 and 272,733 tons respectively.

Fruit-growing in general showed a notable upward trend, the most outstanding increments being recorded for peaches and grapes (17.3 per cent), watermelon (12.3 per cent) and figs (almost 10 per cent).

Among staple foodstuffs, it is worth while to mention the expansion of 10.6 per cent in the potato harvest and of 9.6 per cent in the maize harvest. Wheat cultivation continued to be supported by the development policy in force during recent years, its price being fixed at 460 cruzeiros per 60 kilogramme sack in place of the preceding harvest price of 420 cruzeiros. Nevertheless, the cultivated area appears to have expanded less rapidly than in previous years and only an unprecedented average yield of 930 kilogrammes per hectare enabled the previous harvest to be exceeded by 10 per cent, which gave a total of 1.2 million tons.[7]

Agricultural production in *Colombia* seems to have declined somewhat due to the slight reductions in coffee and cotton production caused by bad weather. Yet large-scale increases were recorded for the banana, rice, tobacco, maize, barley and wheat harvests, which were due, on the whole, to the introduction of improved techniques and varieties giving a higher yield. Thus, for example, over 30,000 hectares of maize were sown with improved and hybrid varieties. A contraction in the area cultivated did not affect wheat production which rose approximately 9 per cent and almost doubled its earlier yield of 1,800 kilogrammes per hectare through use of the new "Bonanza" variety. Similarly the introduction of the new "Funza" variety increased the barley yield. Sugar output rose from 233,000 tons in 1955 to 260,000 in 1956 owing to the incentive of increased exports at the free exchange rate for the dollar.[8] Tobacco output increased from 25,300 tons in 1954 to 30,000 tons in 1956, owing to technical and economic assistance from the new *Instituto de Fomento Tabacalero* and to better prices and export possibilities at the free exchange rate of 6.50 pesos per dollar.

Total agricultural and livestock production in *Cuba* in 1956 shows a slight improvement of 2.8 over the 1955 level. In spite of an apparent expansion in the harvested area,[9] the production increment was no greater because of a general and acute shortage of water which caused a drop in output.

This slight increase is mainly attributable to an expansion in the sugar crop as weather conditions affecting agriculture as a whole were worse than in 1955. The rainy season was late in every province, and rainfall was scanty up to August; in September, a good deal of rain fell in Pinar del Río, Havana and Matanzas, but the
drought persisted in the rest of the country. The cli
of Cuba appears to have deteriorated on the whole,
rainfall from January-August being 18.6 per cent
than that for the same period in 1955 and consider
lower than in 1954.

Considerable reductions were noted in all sectors ex
sugar—owing to its importance in Cuban agricul
production—and tobacco, among those destined fo
port, peanuts and pineapples among those for dom
consumption, and cattle and pig production. The d
ward trend originating in the drought from which
has been suffering in the last few years has thus
continued.

Agricultural production in *Chile* for 1955/56 fell
modest 2.6 per cent in comparison with the previous
mainly owing to bad weather conditions affecting w
rice and citrus crops in some zones.

Wheat production amounted to 1.05 million
representing a drop of 3.8 per cent, i.e., it almost equa
the reduction in the area sown in spite of the h
damage done to this crop by excessive rainfall in the s
of Chile. The grain had to be dried artificially an
many cases, its quality was impaired to such an ex
that large quantities had to be used for animal fo
The loss was offset by the satisfactory yield in the cen
northern and central southern zones.

The rice crop which has been fluctuating since
although with a marked downward trend in produc
and yield, had its worst year owing to the cold sp
yields declining from 31.1 metric quintals in 1954/5
21.4, and production, amounting to 61,000 tons, drop
35 per cent. Sunflower seed yield declined as well,
duction reaching 63,800 tons as compared with 67
in the preceding year.

Among the harvests which showed large-scale incre
were those of barley, which reached the level of 100
tons (12.6 per cent), one of the highest recorded during
last fifteen years; dry pulses, which rose by 14 per
owing to more extensive sowings; and onion and ga
whose cultivated area was extended in view of the
price and export prospects and which increased by
and 24 per cent respectively.

Sugar beet production has been gaining in importa
despite the limited size of the area cultivated. The
Angeles factory received 51,000 tons in 1956 in compar
with 35,600 in the previous year. Several agricult
producers are enthusiastic supporters of sugar beet c
vation in view of its benefits for dairy production an
improvement of the soil. Sugar production rose to 6,
tons, more than doubling the initial production level
little more than three years ago.

Wool output expanded from 19,000 to 21,000
which was entirely due to an increase in the numbe
sheep, since yield per animal declined.

The dairy industry continued its rapid developmen
production as well as in processing. Production rose f
348 million litres in 1955 to 800 million litres in 1956, w
processing improved after the establishment of two
drying plants.

The terms of trade for agricultural and livestock n in 1956 deteriorated by 18 per cent as compared 955 as a result of a more than proportional rise in prices. Thus agricultural prices rose by an average er cent, while mining prices registered an increment per cent and those of industry, building and imports sed 62, 61 and 62 per cent respectively.

---

[7] Published wheat statistics confirm the forecast made considerably in advance of harvest-time.

[8] Sugar exports in 1954 were only 17,000 tons, whereas in 1955 they rose to 27,486 and, during the first few months of 1956, to 35,806 tons.

[9] In 1956, the area harvested with sugar cane, rice, peanuts, henequen, tobacco, coffee, beans and potatoes, showed an increment of 6.5 per cent over 1955.

h regard to the country's agricultural policy, men- hould be made of the continuation and intensifica- f the Agricultural and Transport Development Plan n particular, of the "Chillán Plan". Additional from the sale of agricultural surpluses imported the United States in accordance with agreements en that country and Chile have been assigned to hese plans. During its three years of existence, the n Plan has begun to yield results and in the pro- on and productivity of the soil in its zone of opera- significant improvement is anticipated.[10]

h the 1956/57 harvest in mind, a Decree was enacted 56 decontrolling prices for all agricultural and live- production subsequent to the fixing of a minimum for wheat as a guarantee to farmers.

greatest contrasts in crop and livestock production o be found in Mexico and Peru as a result of weather tions. In *Mexico*, agriculture developed irregularly; as a sharp decline was registered in its cotton crops per cent in fibre production), maize (6), beans (2), 15.6), tomatoes (14.8) and lima beans (14.1), there large-scale increases in coffee production (24 per wheat (41), linseed (26.8), lemons (11.5), pine- s (9.3), oranges (8.3) and rice (7.3) with smaller ses for other commodities like coquito nut, sisal, , cacao and tobacco. Taken as a whole, Mexico's ction decreased by 4.5 per cent owing to the prepon- ce of cotton and maize in the total. In contrast, the vel of maize production was almost entirely attribut- o the drought from which the dry farming area in the ern States suffered.[11]

riculture in *Peru* was also affected by the drought parched the southern zone and severely damaged in the Sierra, particularly potatoes, barley and a. The potato harvest amounting to only 902,000 was 35 per cent below that of the previous year, barley and quinoa also declined by 30 and 25 per espectively. Other crops in the zone also suffered losses, but the greatest harm was wreaked on live- . A large number of cattle—including those for ing—had to be sent to market insufficiently ed, and preliminary estimates by the Ministry of ulture place the losses at 1,000 million soles.

ong the commodities destined mainly for export, a increase was registered for cotton and a slightly one of 3 per cent for sugar thanks to bigger yields.

p and livestock production in *Uruguay* showed t no change, since the increment of 1 per cent in production is lower than the growth of 1.7 per cent in population. The majority of crop yields were reduced by a very dry spring followed by an extremely wet summer, although an extension in the area sown resulted in increases of some importance for oats and maize, amounting to 23.8 per cent and 40,693 tons harvested, in the case of the former, and 13.4 per cent and 217,719 tons for the latter. Conversely, adverse prices for flax, brewer's barley and wheat led to a reduction in the area sown which, combined with bad weather conditions, reduced production.

In spite of the measures taken to accelerate its recovery, cattle production showed a partial improvement only. Judging from the working statistics for inspected abattoirs, in 1956 between 580,000 and 600,000 head of cattle were slaughtered in comparison with only 522,953 in the preceding year and approximately 800,000 in normal times. Finally, it should be pointed out that wool exports also showed a marked upward trend, production having risen from 93,000 to 95,000 tons.

In *Venezuela*, the farm year 1955/56 was fairly normal, although bad weather harmed some crops. Substantial increases were recorded for roots and tubers, some dry pulses, sugar, tobacco and bananas, but production of cereals, coffee and some edible oil seeds declined. As a result of the high level of rice production in the previous year, the Government had to revise its development policy and restrict credit in order to cut the harvest by 40 per cent. Consumption of rice and of maize dropped considerably in the face of greater demand and the import facilities granted for wheat. National wheat production diminished steadily owing to unsuitable ecological conditions. On the other hand, root and tuber production was excellent, especially the potato harvest which amounted to 45,000 tons representing a 25 per cent increment. In spite of increased interest in the coffee plantations in view of the high market prices for coffee, production did not exceed 46,295 tons as a result of the torrential rains which swept the coffee-growing area. As mentioned below,[12] sugar production attained a peak level of 144,046 tons—54 per cent more than in 1955—with an exportable surplus of 90,000 tons.

The agricultural situation in *Central America* in 1956 contrasts with that of the three preceding years when it was unfavourably affected by natural phenomena. In 1956 crop and livestock production surpassed the level of the preceding farm year by 8 per cent, although this figure varied from one country to another, ranging from a maximum of 13.9 and 12 per cent in Costa Rica and Honduras respectively to complete stagnation in Panama. Guatemala, Nicaragua and El Salvador showed increments of 5 to 8 per cent.

Agricultural development in the Central American region depended above all on the expansion of the export sector, the principal export item being coffee. Production rose almost 25 per cent above that of the previous crop year and was 20 per cent more than the annual average for 1950-55. Banana output increased 4.2 per cent with a total of 73.4 million bunches, but the major part of the

---

roduction in 90 per cent of the dairies in the zone increased re than 30 per cent, the average yield per cow rising from 9.9 litres. An extra 9,000 hectares were added to the area with selected fodder crops and fodder grain production, ly non-existent, reached 200 tons. The irrigated area was ed by 5,000 hectares to the general benefit.

e section III, 4, of this chapter.

[12] See section III, 2, of this chapter.

Table 34. Latin America: Coffee production, 1949/50 to 1955/56

(Thousands of tons)

Country	1949/50	1950/51	1951/52	1952/53	1953/54	1954/55	1955/56 [a]
Brazil	1,071.4	1,080.2	1,125.4	1,110.6	1,037.0	1.369.8	1,066.0
Colombia	337.8	302.3	402.7	399.0	405.6	419.0	390.0
Cuba	39.8	32.7	28.7	35.7	38.6	46.5	43.7
Dominican Republic	25.0	31.0	34.5	33.5	32.6	29.5	25.6
Ecuador	23.4	21.6	24.2	22.6	35.3	22.6	24.5
Haiti	29.3	35.3	27.2	35.9	23.8	27.3	27.4
Mexico	68.1	70.8	87.6	84.9	93.0	85.0	105.2
Panama	2.8	3.2	3.9	3.5	4.0	3.6	3.6
Peru	5.6	6.0	8.9	9.6	9.6	9.2	11.0
Venezuela	50.7	34.0	43.3	54.0	44.8	53.4	46.3
Central America [b]	173.6	178.4	200.4	179.9	213.5	182.4	217.2
Other countries [c]	...	...	3.7	4.0	4.2	4.2	4.5
TOTAL, LATIN AMERICA	1,827.5	1,795.5	1,990.5	1,973.2	1,942.0	2,252.5	1,965.6
WORLD TOTAL	2,191.2	2,205.3	2,452.9	2,538.6	2,481.2	2,939.8	2,642.1
Percentage of Latin America in world total	83.4	81.4	81.1	77.7	78.3	76.5	74.4

Source: United States Department of Agriculture, *Foreign Agriculture Circular*, 8 December 1956; and FAO *Yearbook, 1952.*

[a] Provisional data.

[b] Costa Rica, El Salvador, Guatemala, Honduras and Nicaragua.

[c] Including Bolivia and Paraguay.

increment was the result of the recovery made by this crop after the damage caused by bad weather in previous years, especially in Honduras and Guatemala, where production fell sharply following excessive rain and floods.

Cotton suffered from the drop in world market prices, its production being cut by 6 per cent in the main producer icountries (El Salvador, Guatemala and Nicaragua).

With regard to production for the home market, more attention was given to the three major items of the Central American diet—maize, beans and rice—which showed the highest relative increments. Maize production (amounting to a little over 1 million tons) rose slightly more than 14 per cent, mainly in Guatemala and El Salvador.

An increase of 4 per cent over 1955 was registered for beans, the production of which totalled 131,500 tons. Guatemala and Nicaragua exceeded the average level of the previous five years, but the other countries' production showed only a slight improvement over the low figure for 1955.

Aggregate rice production in the region (98,400 tons) was 3.5 per cent above that of the preceding year, although Guatemala and El Salvador showed a slight decline.

All these facts had different repercussions on Central American foreign trade. Guatemala was in a position to meet domestic requirements for the first time in several years; El Salvador cut down imports from Honduras; Nicaragua was able to export a large quantity of beans, although it was obliged to import more maize and rice; and Costa Rica and Panama continued to import maize and beans.

III. SITUATION BY COMMODITIES

1. COFFEE

According to official statistics, coffee productio
Latin America during the 1955/56 crop year[13] amou
to 1.95 million tons which implies a decline of 12.7
cent in comparison with the bumper crop of 2.25 mi
tons recorded for 1954/55 (see table 34). This deteri
tion was due to poor harvests in Brazil, Colombia
Venezuela, as the majority of the other produce
particularly Mexico and the Central American coun
—were in the rising phase of their biennial produc
cycle and had better harvests to market. Moreove
should be remembered that during 1955/56 a consider
number of the new coffee-trees planted after the price
began in 1949 were in full production.

Latin America's unfavourable position in regar
world production during the last few years was rend
even less enviable by the deterioration in the reg
1955/56 harvest. Latin America has, in fact, been lo
ground to African production and, in 1955/56, its sha
world trade was only 74 per cent as against 77 per ce
1954/55 and almost 90 per cent during the pre-war pe

The 1955/56 exportable harvest surplus amounte
approximately 1.46 million tons (24.3 million bags
comparison with 1.96 million the preceding year. If
is added to the aggregate for the rest of the world, it
a total of 2.04 million tons (34 million bags). If ne
carry-overs from the previous year, nor the buffer st
held by the Government of Brazil[14] are included, pro

---

[13] Production during the 1955/56 crop year corresponds to
of the 1956/57 trade year, since it is mainly exported some
after the harvest.

[14] Estimated at 227,300 tons (3.79 million bags).

—particularly of mild grades of coffee—falls below ble world consumption requirements which are ated at 2.2 million tons (a little more than 36.5 n bags).

carry-overs from the preceding harvest may be ient to satisfy world demand during the current although, to judge from the overpricing of mild as st Brazilian coffee and of the latter as against n coffee on the New York exchange and from the d exportable surpluses of most producer countries at eginning of 1957, there will presumably be avery w margin between supply and demand.[15]

s situation may be considered as purely transitory Latin American coffee harvests in the following hould be considerably more abundant, provided that d weather intervenes. Both as a preventive meas- nd to avoid a fall in prices, efforts are being made to ade producer countries to promote the drafting and sion of an international agreement whereby world prices would be stabilized at an acceptable level for producers and consumers.[16]

most important event of 1955/56 was the striking tion in the Brazilian harvest. Frosts in the north of á in July 1955[17] and heavy rain in May and June in that zone, as well as in the States São Paulo and Gerais, prevented more than 1.07 million tons from harvested, which represents 32.2 per cent less than revious year's volume. Even though rather more 100 million new coffee trees[18] were in full commercial ction, one of the lowest figures for the last five was recorded and the smallest average yield per re (318 kilogrammes) since 1944.

falling-off in production was reflected in a con- ble drop in the exportable surplus for the trade year 57 which, according to the latest estimate of the *uto Brasileiro do Café*, reached 705,000 tons (11.75 n bags). This amount is a little less than half the ne of 1.28 million tons (21.3 million bags) recorded for 1955/56.[19] Owing to the effect of the heavy rainfall, the quality of this production is not up to its normal standard.

After a year in which exports reached peak levels for the past five years, Brazil's stocks on 30 June 1956 stood at 7.6 million sacks, excluding the reserves held by the Government.

In view of the marked deterioration in yields and quality, the Government and certain private organizations launched a campaign for the renewal of the coffee plantations, in order to increase production of the better grades, improve yields and reduce production costs. As a first step, the Ministry of Agriculture set up eight experimental stations in the States of Ceará, Pernambuco, Bahía, Espíritu Santo, Río, Goias and Matto Grosso to determine the most suitable varieties for each region and to carry out tests and demonstrations with fertilizers and soil conservation systems. The varieties currently used are Bourbon, Caturra and Novo Mundo.

In Colombia, production in 1955/56 dropped 7 per cent to 390,000 tons (6.5 million bags)[20] owing to unfavourable weather conditions. Exports reached 6.7 million bags,[21] which indicates that Colombia had to draw on its surpluses carried over from previous years. By the end of the trade year, stocks had thus dwindled to one of the lowest levels recorded in recent years.

Outstanding features were the partial devaluation of the coffee-export peso and the contraband problem. The drawbacks arising from the low surrender rate for foreign exchange accruing from coffee exports (2.50 pesos to the dollar) obliged the Government to change both the minimum price and the reintegration rate. The price rose from 400 to 415 and from 425 to 440 pesos per 120 kilogramme bag for the commoner and better quality grades of coffee respectively. For purposes of surrender of foreign exchange by the exporters, the minimum price increased from 95 to 105 dollars per 70 kilogramme bag. Of this amount, 87.50 dollars have to be surrendered to the Central Bank at the official exchange rate of 2.50 pesos to the dollar, and 17.50 dollars can be negotiated at the free rate of a little over 6 pesos. This change was not sufficient to check the increasing flow of clandestine exports, which has become a grave problem, estimated to involve between 700,000 and 1.2 million bags.

In Mexico, where coffee-growing has progressed rapidly both in terms of the area cultivated and of improved techniques, a further increment of 5 per cent was recorded for the area harvested. Thanks to favourable weather

---

stimates of the United States Office of Foreign Agricultural ons place Latin American coffee production for the 1956/57 year (1955/56 crop year) at approximately 2.09 million tons million bags), which implies a drop of 10 per cent below the us year. Latin American exportable production would be lion tons (26.7 million bags) and world exportable production llion tons, i.e., supply and demand would balance each other led that the unexported surplus from the previous year were ken into account. This would encourage Brazil to enlarge cks considerably and Colombia to recover the level of stocks he preceding year.

t one of the last sessions of the FAO Council, it was decided uest the Director General to consult the countries concerned ing the possibility of holding an international conference dy the coffee situation.

echnical authorities in the State of Paraná consider that the ttacked 620 million coffee trees, a large proportion of which ew and, for the greater part, totally destroyed. It will take four years for the others to recover.

ccording to a recent estimate, there are 3,186 million coffee- n Brazil. Of these, 2,587 million appear to be in full produc- nd 599 million are new trees, although 612 million of the are in their declining phase giving low yields and will soon down. As the number of new trees is insufficient to replace being eliminated, Brazil must either extend its plantations the risk of a progressive reduction in the area cultivated and productive capacity.

[19] Up to 31 January 1957, 10.9 million bags had been registered. If further registrations to the end of the trade year follow the same trend as during corresponding months in previous years, exportable production will amount to approximately 11.9 million bags, i.e., practically equal to the estimate prepared by the *Instituto Brasileiro do Café*.

[20] There is a considerable discrepancy in production estimates. FAO gives the figure shown above, whereas the United States Office of Foreign Agricultural Relations estimates it at 440,000 (7.4 million bags), and the *Federación de Cafeteros de Colombia* at only 335,082 tons (5.58 million bags). Contraband is apparently not included in the latter figure.

[21] The source of this information is the United States Office of Foreign Agricultural Relations. Colombian data are not available for the present.

conditions and better yields partly attributable to the phase reached by the coffee cycle, the harvest rose to an estimated 105,000 tons, i.e., 24 per cent higher than the previous year. Deduction of the 15,000 tons normally absorbed by domestic consumption leaves a possible exportable surplus of 90,000 tons, which constitutes a record.

In certain parts of the Vera Cruz district, a new disease appeared known locally as *mal de hilacha*, which is caused by a fungus of African origin. The damage done was not very great and was confined to some 600 hectares. The vigorous campaign by the *Comisión Nacional del Café* prevented the disease from spreading and apparently succeeded in eradicating it completely.

In Central America, coffee was the commodity showing the greatest production increment in 1956. Its total output of 217,200 tons represented a 20 per cent increase over the 1955 figure. On the one hand, the majority of producer countries were in the rising phase of the biennial production cycle and, on the other, very good weather with abundant and well-distributed rainfall enabled the trees to flower satisfactorily and bear better yields. There was also a decided tendency towards extension of the area under cultivation. It thus seems that results are beginning to be obtained from the programmes initiated in recent years for enlarging, renewing and improving the plantations, as well as for promoting scientific soil conservation techniques, the application of fertilizers and disease control.

At the present time, coffee development programmes vary somewhat from country to country. In Guatemala, for example, the *Instituto de Fomento de la Producción* concentrates on the renewal of the plantations and, to a lesser extent, on the introduction of fertilizing practices. Credits to a value of over 100,000 dollars were granted in 1956 for the financing of new sowings. Nicaragua's policy, focused in recent years on the problem of such cultivation techniques as shade control, soil conservation, replanting of coffee trees and disease control, was diverted towards a more widespread use of fertilizers. The *Instituto
de Fomento Nacional* intends to allocate nearly 70
dollars to a loan programme for coffee fertilizing in
The countries where coffee production has lagged be
—Honduras and Panama—are devoting a substa
part of their development programmes to this commo
in order to transform it into an additional source of fo
exchange for increasing their external income. Bro
speaking, the development process is concentrated o
establishment of new plantations, the building of pro
ing plants and the establishment of satisfactory t
relations on the world market. Panama has impo
varieties from Costa Rica, El Salvador, Puerto Rico
Brazil, and in 1956, 150,000 plants grown in the seed
thus formed, together with 75,000 from private sou
were distributed. A similar programme is develo
even more intensively in Honduras, where 1 million pl
from the seed beds belonging to the Ministry of Nat
Resources are distributed yearly.

2. SUGAR

The Latin American sugar situation in 1955/56 pres
a more encouraging picture than in 1954/55. Altho
aggregate regional production was only 3.2 per cent hi
than in 1954/55, with a total of 10.45 million tons
table 35), the course of events has enabled large-scale
ducers to obtain a higher income from their exports an
liquidate a substantial part of the stockpiles. At the
of December 1956, the price of sugar on the United St
market reached 5.90 dollar cents, and on the free w
market 4.80 cents. In view of expanded consump
the Council administering the International Agreen
and the United States Government increased the qu
fixed previously, thereby encouraging a vigorous upw
trend for exports. Sugar-cane producers and the suga
dustry have profited in their turn by a substantial incren
in the demand for industrial alcohol, honey and other
products of sugar processing. Finally, the use of bag
for paper has opened a new source of income for the su
cane industry.

As usual, events in Cuba are of special importance i

Table 35. Latin America: Sugar production

(Thousands of tons)

Country	*1951/52*	*1952/53*	*1953/54*	*1954/55*	*1955/56* [a]
Habitual exporters					
Brazil	1,591.9	1,752.0	1,995.3	2,124.9	2,112.5
Cuba	7,224.5	5,159.2	4,890.4	4,527.6	4,740.0
Dominican Rep.	588.2	630.5	633.7	613.0	651.0
Peru	470.4	602.2	611.5	677.5	697.9
Importers [b]					
Argentina	559.8	710.4	777.8	583.8	733.0
Colombia	152.0	187.0	185.0	252.8	260.0
Mexico	691.1	779.3	830.4	910.0	744.0
Venezuela	64.9	71.8	93.7	144.0	210.0
Other countries	260.7	261.5	263.1	283.2	298.1
TOTAL FOR LATIN AMERICA	11,603.5	10,153.9	10,280.9	10,116.8	10,446.5

Source: Official statistics.
[a] Provisional figures.
[b] Or occasional exporters.

ysis of sugar production by countries. Owing to the ght from which most of the country suffered and to ower unit yield, the expansion of 9.4 per cent in the r-cane area[22] was not reflected in a parallel increment roduction which rose to only 4.74 million tons, or 4.7 ent more than in the preceding year. If honey and sses production is included, the aggregate value of uban sugar crop in 1956 would amount to an estimat- 60 million dollars as against 411 million for the pre- s crop.

y means of successive increases in its export quotas on ree market, an expanded quota for the United States ket and exports of 548,700 tons to Eastern Europe, a was able to sell its entire crop as well as the reserves d accumulated since 1952, which dropped from 1.64 on tons in December 1955 to 1.28 million by 1 Novem- 1956 and, by the end of 1956, might be less than 000 tons.

razilian sugar production fell slightly by 0.6 per cent he first time in the last six years. Despite the increase ea cultivated and a sugar-cane crop 4.6 per cent more that of the preceding year, sugar output did not ed 2.11 million tons, since the saccharine content was nished as a result of the frost in certain sectors of hern Brazil and the heavy rainfall in the late summer early autumn.

he situation of the sugar industry in the Dominican ublic showed a marked improvement in 1956. It will ossible to export the total production of 651,000 tons 2 per cent more than in 1955—as well as the 60,000 held in reserve at the beginning of the cycle, since the a of 678,300 tons assigned under the International r Agreement[23] plus the quota for the United States ket amount to 710,100 tons.

1956, sugar-cane cultivation and sugar production in developed more efficiently than usual. Although the sown was no larger than that of the preceding year, r production achieved the record figure of 697,900 . Yield from sugar and "chancaca" rose to 12.3 11.9 tons per hectare in 1955 and only 8.6 during -48.

mong the importing and occasional exporting coun- , the recovery made by Argentina merits special ntion. After heavy frosts and a partial drought which aged the crop in 1954/55, predominantly favourable her conditions in 1955/56 enabled 733,000 tons to be uced. This was 25.5 per cent higher than the figure he previous year, but even so it fell short of the peak attained in 1953/54. Assuming that Argentina's umption is approximately 660,000 tons, a surplus of 000 tons would remain—including the carry-over previous years—for export purposes.

he bad weather prevailing in the sugar-cane region of ico reduced the production of centrifuged sugar by per cent to 744,000 tons. This decline not only oked a sharp drop in exports, but forced the country nport 50,000 tons to maintain a certain reserve to antee supplies. In consequence, Mexico announced that it would not use the world market quota of 67,500 tons originally allocated to it under the London Agreement, which led to a revision of the quota to 22,685 tons. This figure, combined with the exports to the United States, amounted to a total of 36,000 tons exported in 1956.

The exceptional development of the Venezuelan sugar industry during recent years continued unchecked in 1956, production reaching a new peak of 210,000 tons (45 per cent more than in 1955). Carry-overs from this crop formed a reserve of 90,000 tons which has been partly exported, but which still constitutes a problem for the industry. Thanks to the rise in prices on the world market, exports were effected without any loss to the industry in spite of the high cost of production. At all events, plans are in hand to make a partial cut in production in the following year.

3. WHEAT

In 1955/56, Latin American wheat production was only 9.92 million tons in comparison with 11.95 million in 1954/55. This deterioration of 17 per cent was due to the adverse weather conditions in various countries, especially in Argentina where price policy also played an important part. As a consequence, the share of Latin America in world production dropped from 8.7 to 7.7 per cent between 1954/55 and 1955/56, although world production also diminished by a little less than 6 per cent during the same interval owing to poorer harvests in Europe and Oceania.

An examination of the production of different countries shows that, although Chile, Ecuador, Peru and Venezuela had smaller harvests, the two exporter countries—Argentina and Uruguay—showed the heaviest drop, the volume declining from 8.54 million tons in 1954/55 to 6.09 million in 1955/56. If the carry-over from the past year is added, and the volume of domestic consumption, including human and animal consumption, seeds, offal, etc., is deducted, the exportable surplus of 4.2 million tons is reduced to 1.9 million. However, as the amount set apart for a reserve has to be discounted, exports apparently fell to 3 million tons, which is one of the lowest figures recorded in recent years. Of this amount, somewhat less than 1.3 million tons were sent to other Latin American countries (see table 36). Brazil received almost 1 million from the two countries,[24] which indicates that Argentina was unable to fulfil its undertaking to sell it 1.2 million tons, but had to resort to other markets, above all that of the United States, in order to cover all its consumption requirements.

None of the exporting countries had any difficulty in placing its exportable surplus. The effects of the first United States sales of wheat, under highly favourable payment conditions and in accordance with the Act on the disposal of surpluses, were apparently not felt.

Only Uruguay took specific measures to restrict production. In previous years, the policy of high guarantee prices resulted in a considerable increase in production, but in face of the accumulated surpluses on the world market and the relatively low price level, the sale of exportable surpluses involved the Government in large-

---

Sugar-cane cultivation covered an area of 911,604 hectares. 23.6 per cent above that of 1955.

[24] 668,000 tons from Argentina and 320,000 from Uruguay.

Table 36. Argentina and Uruguay: Wheat export availabilities

(Thousands of tons)

	1955	1956 [a]	1957 [a]
I. Carry-overs to 1 January	1,306.0	2,074.4	1,199.3
II. Production	8,543.6	6,090.0	7,880.0
III. Total availabilities at the end of the harvest (I + II)	9,849.6	8,164.4	9,079.3
IV. Exports	4.028.5	3,075.0	. . .
V. Net availabilities (III—IV)	5,821.1	5,089.4	. . .
VI. Reserves at the end of the year	2,074.4	1,199.3	. . .
VII. Consumption (V — VI) .	3,746.7	3,890.1	. . .

Source: Official statistics.
[a] Provisional figures.

scale expenditure. In order to introduce some measures of economy and eliminate from the market the marginal producers cultivating very thin top-soils rather than natural prairie land, the Government lowered the guarantee price from 16 to 14 pesos per metric quintal.[25] The expected results were not achieved at the first attempt and the area cultivated increased 3.2 per cent, but production was finally reduced to 840,000 tons—13,000 tons below that of the previous year as the result of a falling-off in yield (see table 37).

In Argentina, the low relative prices fixed for wheat and other cereals before September 1955 and the lack of moisture which impeded proper soil preparation resulted in the substitution of other crops for wheat.[26] Moreover, owing to the bad weather which followed the sowing, yields were low and the harvest was only 5.25 million instead of the 7.69 million tons produced the previ year.

With a few exceptions, the policy of the impo countries was to secure a higher degree of self-sufficien Among these, Mexico was outstanding with an unpre dented harvest of 1.2 million tons, which surpassed high level of the preceding year by 41 per cent. This partly due to the high wholesale prices fixed during sowing, which encouraged the cultivation of a wider a and partly to the excellent yields which were the resul good weather, abundant irrigation and the more intens use of improved seeds and fertilizers.[27] Although prod tion was sufficient to cover domestic requirements, p of the 100,000 tons which Mexico had agreed to buy fr the United States Commodity Credit Corporation (CC under the terms of the trade agreement in force, was ported with a view to maintaining a security reserve

The wheat promotion campaign led to a fresh increas 1.1 to 1.21 million tons in Brazilian production. Ne theless, the rate of growth for this crop has declined slig ly, as the area sown is only 8.9 per cent more, in comp son with the average annual increment of 12 per c registered since 1950.

Wheat cultivation appears to have been establis finally on the former prairie land in the States of Grande do Sul and Santa Catarina. Soil improveme the more rational use of fertilizers and the employmen an ever-increasing number of varieties created especia to suit the ecological conditions of the zone, have produ a notable expansion in the country's average yield. average of 815 kilogrammes per hectare in 1950-54 to 923 kilogrammes in 1955 and 930 kilogrammes in 1 yields of more than 1,500 kilogrammes per hectare being unusual.

---

[25] Only for producers sowing more than 250 hectares; the original price remained in force for medium and small-scale producers.
[26] Only 5.2 million hectares were sown.
[27] 13 per cent i.e., 36,000 gross tons, of the country's t consumption of fertilizer is used for wheat cultivation.

Table 37. Latin America: Wheat production

(Thousands of tons)

	1949/50	1950/51	1951/52	1952/53	1953/54	1954/55	1955/56 [a]	1956/57 [a]
Importer countries								
Brazil	532.4	423.6	689.5	771.7	871.3	1,101.3	1,211.8	. . .
Chile	854.3	975.1	915.6	989.2	955.4	1,077.6	1,047.7	1,003.2
Colombia	101.9	130.0	140.0	170.0	146.1	166.0	180.0	. . .
Ecuador	19.8	25.9	25.6	26.0	33.5	38.6	36.6	. . .
Paraguay	0.7	0.5	0.6	1.6	2.1	1.5	2.7	. . .
Peru	143.8	156.6	162.1	168.7	162.5	151.9	129.2	. . .
Venezuela	4.6	4.6	4.2	6.3	3.1	2.0	1.8	. . .
Mexico	587.3	589.9	512.2	670.6	839.5	850.0	1,200.0	. . .
Central America [b]	22.8	27.4	23.3	20.8	19.5	17.9	24.2	. . .
TOTAL	2,267.6	2,333.6	2,473.1	2,824.9	3,033.0	3,406.8	3,834.0	. . .
Exporter countries								
Argentina	5,144.0	5,796.0	2,100.0	7,386.0	6,200.0	7,690.0	5,250.0	7,130.0
Uruguay	452.0	434.7	477.6	462.5	818.6	853.6	840.0	750.0
TOTAL	5,596.0	6,230.7	2,577.6	7,848.5	7,018.6	8,543.6	6,090.0	. . .
GRAND TOTAL	7,863,6	8,564.3	5,050.7	10,673.4	10,051.6	11,950.4	9,924.0	. . .

Source: Official statistics.
[a] Provisional figures.
[b] El Salvador, Guatemala and Honduras.

e rise in the guarantee price from 420 to 460 cruzeiros 0 kilogramme sack, as well as more regular supplies of ultural machinery and the extension of agricultural t for this crop,[28] contributed to an enlargement of the vated area. The Government's development pro- me gave special importance to the construction of a ork of silos and warehouses, a project which has been ed out with the aid of a loan from the *Banco Nacional esenvolvimento Econômico.*

order to satisfy consumption requirements, Brazil d an agreement with the United States at the end of for the purchase of 500,000 tons of wheat payable for ost part in cruzeiros on a long-term credit basis and the terms of the Act on the disposal of surpluses. cember 1956, a new agreement was concluded for the ery of 1.8 million tons over a 3 year period, to be for by means of a 40-year loan in cruzeiros. Brazil d to regard the United States as one of its regular iers and to buy a minimum of 80,000 tons annually its own foreign exchange.

spite a 25 per cent contraction in the wheat area ing from increased barley cultivation, Colombian production was 180,000 tons or 9 per cent more the preceding year. The explanation for this lies in ceptional yields from the new "Bonza" variety just luced, thanks to which 2,300 kilogrammes per re were harvested in 1956 as against 980 in 1954.

atemala is the only producer of any relative impor- in Central America. Owing partly to a more inten- mployment of improved seeds, the 1956 crop was) tons as against 16,700 tons in 1955.

the other producer countries, the crop declined in us degrees. Chile's production was 1.05 million tons, enting a reduction of 2.8 per cent in comparison with 55 as a result of the contraction in the area sown ing the slight drop in real prices. A similar reduc- Ecuador reflected the competition of lower-priced n wheat. The drought in southern Peru reduced its st to only 129,000 tons (15 per cent less than in 55), while the downward trend of production in uela continued, and the crop, which only yielded 1,800 tons, appears already to have lost its former importance as a national commodity.

Preliminary information on the 1956/57 crop in some of the countries of the southern hemisphere shows a marked improvement in Argentine production. As a result of the new wheat prices fixed in May 1956,[29] the area sown was extended to 6.13 million hectares yielding 7.13 million tons.

In Uruguay, on the contrary, the Government intensified its campaign to cut down the wheat-growing area and to accelerate the sowing of forage crops for its livestock recovery programme. The wheat price was fixed at 13 pesos per metric quintal, but subsidies were granted so as not to disturb the economy of the small and medium-scale farmers, i.e., those owning no more than 300 hectares of land under seed, of which 150 are sown to wheat. By granting subsidies to the original wheat-growers only, crop cultivation on land destined for other types of exploitation was discouraged. After sowing, increased production costs forced the minimum price up again to 14 pesos. This policy gave positive results, as the area sown was reduced by nearly 18 per cent and currently covers 856,986 hectares, with a production of 750,000 tons. Brewer's barley and flax, and part of the forage crops, now grow on the land once devoted to wheat.

In Chile, the lack of rain in the south had an unfavourable effect on yields and production declined 4.3 per cent to little more than 1 million tons.

4. MAIZE

After sesame, with a production increment of 30 per cent between 1954/55 and 1955/56, and peanuts, with a corresponding increment of 23 per cent, maize showed the highest rate of development of all Latin American crops during the year under review. Total production for the region was 18.88 million tons as against 17.05 million only the preceding year, i.e., 10.8 per cent more (see table 38). This volume and world market prices make maize one of the most important commodities in Latin American agriculture. It covers the largest area cultivated and only coffee surpasses it in production value.[30]

Table 38. Latin America: Maize production

(Thousands of tons)

Country	*1949/50*	*1950/51*	*1951/52*	*1952/53*	*1953/54*	*1954/55*	*1955/56* [a]
Argentina	836.4	2,670.0	2,040.0	3,550.0	4,450.0	2,546.0	3,870.0
Brazil	6,023.5	6,218.0	5,906.9	5,984.3	6,788.8	6,689.9	7.310.4
Mexico	4,200.0	4,443.0	3,950.0	4,234.0	4,487.6	4,498.9	4,230.0
Central America [b]	1,018.9	1,083.5	975.0	977.3	873.4	879.5	1,006.2
Others	2,005.5	2,388.3	2,167.4	2,291.8	2,532.8	2,431.9	2,467.9
TOTAL	14,084.3	16,802.8	15,039.3	17,037.4	19.132.6	17,046.2	18,884.5

Source: Official statistics.

[a] Provisional figures.

[b] Costa Rica, El Salvador, Guatemala, Honduras and Nicaragua.

---

etween January and September 1955, 529 million cruzeiros ranted for 3,277 transactions. During the same period in he amount lent rose to 940 million cruzeiros for 4,180 ctions.

[29] 75 pesos per metric quintal instead of the 50 pesos in force prior to September 1955.

[30] 2.470 million dollars for coffee and 1.340 million for maize, at 1956 prices. Sugar comes next with 1.330 million dollars.

The total volume is composed of the small increases recorded in every South American country except Peru and Venezuela, but the major proportion comes from Argentina whose production recovered after an unfavourable year.

The 1955/56 crop produced an exportable surplus of nearly 1.4 million tons, of which a little more than 1.1 million came from Argentina and the remainder from Brazil, Guatemala and El Salvador.

It should be pointed out that the recovery made by this crop is due rather to an enlargement of the area cultivated than to an improvement in yield. Maize cultivation is perhaps the most eloquent example of progressive soil impoverishment. Nearly every country has shown a steady decrease, or stagnation, in yield per hectare, in spite of the dissemination of various hybrids with a much higher natural yield. The trend is evident in Argentina and Brazil, which in area and volume, represent almost 60 per cent of all Latin America. In both countries, hybrid varieties have been sown in more than 7 per cent of the whole area cultivated, but yields have none the less fallen from an average of 1,389 kilogrammes per hectare in 1929/30-1933/34 to only 1,240 in 1949/50-1953/54 in the case of Argentina, and from 1,874 to 1,606 respectively in the case of Brazil. In Chile, where this crop occupies a relatively small area of 55,000 hectares, yields have been practically constant during the same period, although hybrids are planted in almost 50 per cent of the total area cultivated. Conversely, in the United States, yields have almost doubled, rising from 1,474 to 2.414 kilogrammes per hectare (see table 39).

The Governments and private enterprises of various countries are encouraging the selection, production and distribution of hybrid varieties, but their large-scale application is not progressing rapidly enough owing to the high cost of seeds and the difficulty of convincing the small-scale farmer of their economic advantages. Occasionally hybrids have even had to be exported or sold for food. Nevertheless some progress has definitely been made. For instance, in Mexico, the production of hybrid seeds increased from 5,400 tons in 1955 to 7,500 in 1956, which is sufficient to sow one eighth of the entire area cultivated. In Colombia, production rose from 262 to 487 tons, in Venezuela from 120 to some 170 and in Cuba from 55 to 129 tons.

Although it cannot be confirmed statistically, studies carried out in different Latin American countries indicate that maize for human consumption is being gradually superseded by wheat. Wheat consumption is backed by direct or indirect subsidies in the majority of Latin American countries; moreover, it provides approximately the same number of calories for the price as maize plus the added advantage that it can be sold ready for consumption in the form of bread, or requiring little preparation, for instance in the form of noodles and similar alimentary pastes. Moreover, bread is an independent food item which, from time to time, supplants other commodities as the staple foodstuff of the masses particularly of the lower-income urban population. The difficulty of preparing maize has resulted in its elimination from urban consumption; it is eaten in rural areas only.

Table 39. Unit yield of maize in selected L American countries and in the United States

(Kilogrammes per hectare)

Country	*1930-34*	*1935-39*	*1940-44*	*1945-49*
Argentina	1,874	1,809	2,084[a]	1,766[b]
Brazil	1,389	1,411	1,289	1,255
Chile	1,514	1,379	1,383	1,361
United States . .	1,474	1,566	2,005	2,237

Source: Official data.

[a] 1943 was omitted as abnormal

[b] 1950 was omitted as abnormal.

The consumption of maize as fodder has graduall creased, but its high relative price compared with an products and by-products prevents it from being wi used as it is in countries with a more developed agri ture. The price control imposed on milk and beef in m countries has provoked this situation, since, in most p the price of maize is uncontrolled. Consumption ha creased mainly because it is used to feed pigs and pou which, as well as being efficient transformers of f stuffs, are unaffected by the ubiquitous and strict p controls in some Latin American countries.

With regard to production itself, it should be m tioned that the new price policy in Argentina came force after October 1955 when the sowing season too far advanced for the farmers, who had already dec to restrict their sowings of maize because its relative was relatively lower than before, to be influenced b Maize sowings were 3.8 per cent less than in the prece year, but, thanks to the comparatively normal wea conditions, production increased 52 per cent to million tons which represents the peak level for the decade.

The harvest was better in all the Central Amer countries although, except in the case of El Salvador, represented a recovery rather than a true increase. is borne out by the fact that both Nicaragua and C Rica had to import substantial amounts of maize, rice beans. Central American production rose from 879 to rather more than 1 million tons, but did not riva average production of 1949/50-1950/51, although Salvador raised its average by 18 per cent.

Mexican production dropped by 6 per cent to million tons, and Peruvian production by approxima 15 per cent. In Paraguay, the area sown expanded 84,000 to 92,300 hectares and a notable improveme yields raised production to 120,000 tons, or 20 per above the figure for the previous year. Increases of 4 per cent were recorded for production in Brazil, Colom Chile and the Dominican Republic, while that of C Panama and Venezuela underwent reductions of 7, 4 3 per cent respectively.

5. Rice

Following the rapid increase which characterized it the Second World War, rice production appears to come to a relative standstill. Latin American count which were practically excluded from the world ma owing to the difficulty of competing because of the

Table 40. Latin America: Rice production

(Thousands of tons)

	1948/49 1952/53	*1953/54*	*1954/55*	*1955/56* [a]
America . .	4,478	5,029	5,486	5,551
d production [b]	105,567	121,119	116,000	122,955
ntage of in America world total .	4.2	4.2	4.7	4.5

rce: Official statistics.

Provisional figures.

xcluding China and the USSR.

with traditional producers, have been obliged to ict their output to the level of domestic demand and xport only the small occasional surpluses. The /56 crop was no exception to this rule, exceeding that 54/55 by a mere 1 per cent and thus proving insuffi- to cover the additional demand generated by popula- growth. Latin America's share in world production ined at more or less the same level as in the previous , i.e., approximately 4.5 per cent (see table 40).

lombia increased its production by 5 per cent to 000 tons, thanks to the incorporation of new land and tific methods of cultivation. The use of certified s, the application of manures in the more progressive ns and irrigation have all contributed to improve the try's average yields. Production in 1955/56 rendered mbia self-sufficient and its imports, which amounted ,000 tons in 1954, disappeared completely.

Mexico, the crop rose from 209,700 tons in 1955 to 000 in 1956. This increment of 7.3 per cent was made ible by favourable weather conditions in the producer icts of the State of Morelos and in the centre of the try and by a good water supply in the Sonora irriga- zones.

Chile, the rice crop, which has fluctuated in produc- and yield since 1946 though always with a marked nward tendency, experienced its worst year owing to pring cold. Yields dropped from 31.1 metric quintals hectare in the preceding year to a mere 21.4, and uction (61,000 tons) fell by 35 per cent.

Venezuela, where a surplus of 57,300 tons was pro- d in 1955 and where consumption markedly declined result of rising prices and the replacement of rice by lles and similar alimentary pastes and potatoes, the *oración de Fomento* had to resort to credit restrictions attempt to limit production. The crop subsequently ined 41 per cent to a total of 60,000 tons.

lthough the aggregate Cuban production of 170,400 was only 1.5 per cent less than in the preceding year, sease of unknown origin[31] has appeared and is causing us damage throughout the island, particularly in the ince of Camagüey.

inally, it is important to note that Brazil revived its exports in 1956. Since 1952, it had exported only igible amounts as a result of the unfavourable ex- nge rates fixed for rice exports and low quotations on the world market. During the last two years, it had accumulated substantial surpluses, especially in the State of Río Grande do Sul. After a more favourable exchange rate came into force at the end of 1955, 69,000 tons were exported between January and September 1956, mainly to Indonesia and French West Africa.

6. COTTON

Cotton was one of the few Latin American agricultural exports which lost ground on the world market in 1955/56 because of competition. During the last six years, world cotton production has exceeded consumption by a wide margin, and a surplus estimated at rather more than 3 million tons has been accumulated, the major part of which is in the hands of the United States Government.

In an effort to get rid of its surpluses and sell approximately 1.1 million tons *per annum* (5 million bales) instead of the customary 805,000 tons (3.5 million bales), this Government adopted a policy of export subsidies, price reductions and multiple payment facilities. By these means, the United States has re-occupied its traditional place in the market from which it had been partly dislodged as a result of expanding production in other countries, especially in Latin America. Its policy was reflected in an over-all reduction of international prices.

Discouraging market prospects and the fear that United States competition would prevent the sale of their whole crop led some producers of short and medium-fibre cotton to restrict production to the districts enjoying the best ecological conditions. Following such measures and also because of bad weather in Brazil, one of the few countries which had not reduced its sowings, aggregate Latin American production for 1955/56 amounted to only 1.18 million tons, i.e., 8.7 per cent less than the figure of 1.29 million for the preceding year (see table 41). On the other hand, the total area devoted to cotton cultivation was reduced from 4.5 per cent to 4.58 million hectares.

For the majority of the Latin American countries this has been the first reduction in the cotton-growing area since 1950; it has interrupted one of the most outstanding development processes which has ever taken place in the region in general and especially in Central America and Mexico. The lower crop volume implies that Latin America's contribution to world production dropped from 16.9 to 15.6 per cent between 1954/55 and 1955/56.

Attention is drawn, in the analysis of production by countries, to the changes that took place in Mexico which, in 1955, had become the main producer in Latin America with a crop of 501,700 tons and whose production dropped by 22.3 per cent, in 1956, to 390,000 tons. Mexican production suffered from the lack of water for irrigation in the Mexicali valley and in the Laguna and Matamoros districts. On the one hand, credit was redirected and limited and, on the other, irrigation was controlled with a view to discouraging marginal producers. Mexican production also suffered from the lack of water for irrigation in the Mexicali valley and in the Laguna and Matamoros districts.

In order to ensure that the world price was attractive to exporters, the Government lowered the export duties to 22 per cent *ad valorem*, so that pre- and post-crisis prices

---

It is believed to be a virus spread by a vector insect.

Table 41. Latin America: Cotton-fibre production

(Thousands of tons)

Country	1950/51	1951/52	1952/53	1953/54	1954/55	1955/56 [a]
Argentina	102.4	125.2	123.4	138.2	114.1	122.5
Brazil	348.8	515.4	374.9	395.2	428.5	423.9
Colombia	6.5	10.6	17.0	27.9	25.0	22.5
Ecuador	1.4	1.1	2.5	2.1	2.7	3.0
Paraguay	15.8	18.6	13.3	15.8	13.8	15.0
Peru	83.2	96.5	96.0	111.9	109.1	110.0
Venezuela	2.9	4.7	5.0	4.5	5.6	4.6
Mexico	287.6	264.5	273.7	389.7	501.7	390.0
Haiti	1.0	1.6	1.8	1.4	2.0	1.7
Central America [b]	30.6	27.9	40.0	78.6	92.8	90.4
LATIN AMERICA TOTAL	880.2	1,066.1	947.6	1,165.3	1,295.3	1,183.6
WORLD TOTAL [c]	6,654.2	7,108.1	7,367.6	7,012.9	7,674.3	7,570.7
Percentage of Latin America in world total	13.2	15.0	12.9	16.6	16.9	15.6

Source: Official statistics.

[a] Provisional figures.

[b] El Salvador, Guatemala, Honduras and Nicaragua.

[c] Excluding the USSR.

were almost the same for the producer. The Government also intends to maintain and even increase production on a long-term basis. In order to be in a good competitive position on the world market, the crop will be concentrated in the most suitable ecological districts and cultivation techniques will be developed with a view to raising productivity, lowering production costs and improving still more the traditionally high quality of Mexican cotton.

Cotton exports continued as usual and accumulated surpluses dropped even below the desirable minimum. On 30 June 1956, at the close of the Mexican cotton year, reserves amounted to 11,270 tons, i.e., 70 per cent less than the 36,480 tons held on the same date in 1955.

In Central America, sowings were reduced approximately 28 per cent as a result of a price decline on the market, but natural factors encouraged high yields and production dropped 3 per cent only. This reduction in sowings, which was a spontaneous reaction on the part of the farmers, was carried further by the restrictive criteria applied by credit institutions, especially in regard to marginal producer zones. Thus the need for more efficient production through an increment in unit yield emerged as an increasingly important problem.

The most important measure adopted by El Salvador, Guatemala and Nicaragua as a reaction to the market crisis, was the extension of the term of credit originally granted for three years. This undoubtedly gave fresh impetus to the inflationary pressures on their economies, since nearly all the credits were financed by rediscounts, but it is difficult to see what other direction this policy[32]
could have taken in view of the considerable recent inv
ment in machinery and other fixed assets.

Peru, the only large-scale producer of long-fibre cott
did not suffer the full impact of United States comp
tion. Its cotton price remained stable and even impro
slightly. Almost the whole of the exportable surplus fr
the previous harvest was placed and reserves dropped
a minimum. Production, which scarcely differed fr
the previous year's figure, showed a small surplus of
tons and amounted in all to 110,000 tons, thus alm
equalling the peak figure of 111,900 tons attained
1953/54.

Production in 1956 was characterized by a substan
increment in the extra-long-fibred "Pima" and "Karna
varieties. The first amounted to approximately 17,
tons (a 22 per cent rise) and the second to 3,400 tons
112 per cent rise). Together they represented 19 per c
of total production.

Cotton cultivation on the same land for many years
increased the incidence of various plagues, which ha
been treated by the growing though indiscriminate
of organic insecticides. Excessive use of the latter has
only affected production costs but also produced a b
logical imbalance in some valleys as a result of t
destruction of useful insects that help to control cert
plagues and the strong resistance developed by ot
harmful species. The Ministry of Agriculture has the
fore prohibited the use of some of these insecticides a
advocates systematic crop rotation, offering new variet
of wheat that are fairly immune to the rust which oft
attacks it in these regions. Farmers have shown lit
interest, though, and in some cases the seeds have had
be sold for flour-processing.

The world market situation had very little effect
sowings in Brazil owing to the Government policy
guaranteeing a minimum price; the area sown was on
4,000 hectares less than the 2.6 million sown in t

---

[32] In addition to the extension of the term of credit and continuous support to cotton producers, Nicaragua established a programme of guarantee prices and Government purchases in anticipation of a sharper falling-off in prices. This programme was, however, of short duration owing to the recovery and stabilization of the market following the first impact of the new United States policy.

Table 42. Latin America: Cacao production

(Thousands of tons)

	1949/50	*1950/51*	*1951/52*	*1952/53*	*1953/54*	*1954/55*	*1955/56*
Brazil	152.9	121.2	113.6	137.0	162.9	157.9	154.6
Colombia	14.6	14.6	15.0	15.0	15.0	28.0	28.0
Dominican Rep.	32.7	31.0	31.6	30.5	30.0	34.2	32.5
Ecuador	24.6	22.3	24.5	20.1	30.0	24.0	25.0
Venezuela	15.0	16.9	17.0	16.0	16.0	15.0	15.0
Mexico	8.6	8.6	9.1	8.4	12.6	13.9	13.9
Panama	1.4	0.9	1.2	1.2	1.6	1.4	1.1
Haiti	1.9	2.0	1.9	2.1	2.2	1.5	1.9
Central America [a]	5.1	4.0	9.4	7.7	8.2	9.2	11.3
LATIN AMERICA TOTAL	256.8	221.5	223.3	238.0	278.5	285.1	283.3
WORLD TOTAL	782.8	693.5	746.3	720.0	783.5	825.1	808.6
Percentage of Latin America in world total	32.8	31.9	29.9	33.1	35.5	34.6	35.0

Sources: ECLA, FAO, and *Cocoa Statistics*, London, 1956.

[a] Costa Rica, Guatemala and Honduras.

ceding year.[33] Even so, the heavy rains which fell in
States of São Paulo and Minas Gerais at mid-harvest
a harmful effect on the quantity and quality of the
o. Hence total production was 423,900 tons (1.1 per
t) lower than in 1955, but its quality was so much
rior that the Government had to restrict exports of
ner-quality cotton in order to satisfy domestic demand.

razil had no difficulty in disposing of its 1955 harvest,
, at the end of the cotton year on 26 February 1956,
eserves stood at 46,980 tons—practically the same as
955. In spite of its poor quality, the 1956 crop is being
ced at a slightly quicker rate.

o far as the technical aspect is concerned, it should be
tioned that the *Instituto Agrónomo de Campinas* has
n developing a new cotton variety superior in precoci-
length of fibre and yield—both as regards fibre and
l—to that currently used. According to Govern-
t plans, by 1959 it should have supplanted the variety
v in use.

7. CACAO

acao prospects continued to be unfavourable in
5/56, as world production exceeded consumption by
e than 40,000 tons. The low price quotations in 1956
nly slightly higher than those of the preceding year—
not encourage an increment over the consumption
els recorded for 1953 and consequently both buying and
ing countries accumulated reserves which, at the
inning of 1956, amounted to more than 400,000 tons.

he area cultivated in Latin America has been gradu-
extended, although no intensive expansion program-
s exist. Average production has risen from 233,600
s in 1949/50-1951/52 to 283,300 in 1955/56. As a
lt of the relative stagnation of production in the rest
he world, particularly in Africa, the Latin American
re of the world total rose from 31.5 to 35 per cent be-
en the periods mentioned (see table 42). If this trend
tinues, together with high production costs and the practical difficulty of controlling the diseases that attack cacao in Africa,[34] Latin America may once again play the same part in the world cacao trade as at the beginning of the century.

As cacao is a perennial with a long period of growth and the area harvested underwent no special modification during the last year, production fluctuations can only be attributed to weather conditions and to the greater or lesser incidence of plagues.

If Latin American production in 1955/56 is compared with that of 1954/55, the outstanding feature is the increment of almost 23 per cent in the Central American harvest, which totalled 11,300 tons. This increase derived mainly from the effective control of diseases, partly encouraged by the various development measures adopted by the Governments of Nicaragua and Costa Rica in the form of credits and the distribution of cuttings and plants from resistant varieties. The *Instituto de Ciencias Agrícolas* has given valuable help in this connexion.

In Ecuador, greater attention has been given to the cacao plantations since 1949, when five nurseries were established for the propagation of higher-yield varieties and cuttings resistant to *monilia* and *escoba de bruja* ("witch's broomstick").

Brazil's prospects of increasing its crop are among the most favourable in Latin America, as it has ample land and an ideal climate and soil. In addition, the two diseases mentioned above, which attack this crop in other countries, have been eradicated. The only disease that remains to be eliminated is black rot on the pod which caused serious damage in some years but is not difficult to eradicate.

See footnote 5 of this chapter.

[34] As a result of the disease called *hinchazón del brote* ("swollen shoot"), nearly 2 million trees have had to be cut down since 1945, in order to prevent the infection from spreading further. The other two diseases "Capsid" and "Moniliasis" can be controlled by the intensive use of insecticides and fungicides respectively, although the difficulty of applying them makes this almost impossible, particularly in districts where there are small-holdings and the crops are scattered.

In Colombia, production remained stable, although the area harvested was 4,000 hectares less. This area, situated in one of the traditional producer zones, was lost owing to a rise in the phreatic water level. The 1956 harvest was, however, not reduced by this misfortune, as the first plantations established in 1953 entered into production. In 1953, the current development campaign was launched, consisting mainly in the renewal of plantations and control of "moniliasis" and approximately 400,000 t
have since been planted annually. In this way Colo
hopes to become completely self-sufficient.

The majority of the other producer countries are
promoting improvements in their plantations and it
be hoped that their efforts will shortly result in a stri
increase in regional production.

Chapter II

INDUSTRY

I. LATIN AMERICAN INDUSTRY IN 1956

tin America's industrial production continued to nd in 1956 at a rate exceeding the previous year by r cent, but there was a further—and considerable—ction in the quantum rate of growth.[1] The reasons his varied from one country to another, but one—ely a falling off in demand—was common to all of . This in turn was mainly the result of a decline in ultural output, which reduced the purchasing power e largest group of consumers in the region. Other rs were the deterioration in the terms of trade and the sures introduced in some countries to combat inflation to eliminate disequilibrium in the balance of pay- ts.

ailable figures indicate that in 1956 the greatest rela- increase within Latin America's industrial growth place in those industries making capital and durable s. This provides clear evidence of the present indus- trend in the larger countries of the region: since rt substitution prospects for ordinary consumer s are becoming gradually exhausted, expansion of strial output in these sectors can only take place as a t of population growth or a general rise in income s. Hence it is becoming increasingly necessary to r those fields of substitution which become progres- y more complex and which require advanced technical s and heavy capital investments.

II. TRENDS BY COUNTRIES

1956, industrial production curved sharply upward olombia and Venezuela and to a lesser degree in ico; moderate expansion took place, in declining r, in Brazil, Peru, Argentina and Chile. There was change in Ecuador and Uruguay.

Argentina, production rose by only 1 per cent above previous year's level, with a corresponding weakening e rate of growth recorded since 1954 following the raction of 1952 and 1953. Until October there had an expansion of almost 3 per cent over the first 10 ths of 1955, but strikes for higher wages caused luction stoppages lasting several weeks, particularly e metallurgical and printing trades. Industry as a le encountered no marketing or raw material difficul- but was subject to rigid selling prices and expanding s. This was accentuated by credit restrictions which nt that some industries encountered serious financing lems.

he basic difficulties which have handicapped Argen- 's industrial development during recent years con- ed to prevail during 1956. There was scarcely any replacement of worn-out or obsolete equipment;[2] insufficient energy supplies meant continued rationing and prevented more intensive use of equipment;[3] worn-out and congested means of transport impeded normal distribution of raw materials in some cases or of finished products in others. In addition, labour policy posed serious problems. In fact, the vast wage increases requested and granted—which, moreover, included several months of retroactivity—bore no relationship to the increase recorded in the cost of living. They were bound to have a negative effect on industrial output, at least unless part of the increases were transferred to prices, which would accentuate the inflationary process.

In *Bolivia*, the demand for industrial products was more active than during the previous year, but production did not develop at the same rate, mainly because the shortage of foreign exchange limited supplies of imported raw materials. Hence the supply problem became more difficult, particularly for essential consumer goods.

Industry in *Brazil* continued to operate at high levels of production. The previous year's rate of growth was exceeded, despite the falling off in the textile sector, which is one of the country's largest manufacturing activities. This contraction was more than offset by the extraordinary development of other sectors, in particular the metallurgical and chemical industries. Production expanded at a greater rate in industries making capital goods than in those making consumer goods. The changes in both types of industry are shown in table 43.

Table 43. Brazil: Distribution of the value of industrial production

(Percentages)

Industries	*1949*	*1955*	*1956*
Capital goods	24	29	33
Consumer goods	76	71	67

Source: Conselho Nacional de Economia.

As from the second half of the year a greater volume of foreign exchange was available than during the first half, during which a slight depression had prevailed, and its value in terms of cruzeiros was less. Bank credit presented difficulties, not because it contracted but because the considerable increase in manufacturing costs meant

---

7 per cent in 1954 and 6 per cent in 1955.

[2] An order of priorities for achieving gradual modernization of industrial machinery has been under consideration.

[3] To overcome this drawback several industrial establishments installed their own generators. On the other hand, steps were taken to instal the network between the thermal plant of San Nicolás and Greater Buenos Aires, even though this would only cover the present deficit, leaving no margin for any industrial expansion.

that the level of credit facilities, which remained the same, was insufficient.

In May an increase of nearly 37 per cent was authorized in the minimum wage. This stimulated demand during the five following months,[4] but it placed various industrial sectors in a rather difficult position. One of those most affected was the textile industry, which employs a high ratio of labour; when higher production costs were transferred to prices, the market for textiles contracted, and by the end of the year, manufacturers were holding unusually large stocks.

Industry was better supplied with electric power, mainly because the year was a rainy one, so that the hydroelectric power stations had a more regular and abundant water supply. Industrial energy consumption rose by nearly 16 per cent over the 1955 figures.

Investments continued to be active, but not at the same rate as in previous years. Reinvestment by the enterprises themselves has been entirely responsible for the spectacular expansion of Brazilian industry in recent years, since the shortage of medium and long-term credits made it quite impossible to resort to bank financing. Nevertheless, it would appear that this process of expansion on the basis of reinvestment was becoming more restricted in 1956, because profit margins and hence the amounts available for reinvestment were affected by the marked increase in manufacturing costs which cannot always be entirely transferred to prices. As in earlier years, nearly all new activity took place in the region bounded by Brazil's dynamic triangle: Rio de Janeiro, São Paulo, Belo Horizonte.

The rapid rate of expansion of its exports of manufactures has been very important to Brazilian industry. These exports rose from 8 million dollars in 1954 to 24 million in 1955 and are estimated to have reached nearly 50 million dollars in 1956. This is encouraging when it is remembered that industry has only recently made any effort to export some of its products. The Government in turn has recognized the need to create favourable conditions for exporting manufactures, and agreed, in a decree enacted in May, to provide an incentive in the form of preferential exchange rates.

In *Colombia* industrial production continued to expand at an even more rapid rate than during the preceding year. Although 1956 was a difficult year for Colombia's economy, because of the great shortage of foreign exchange, it was an excellent year from the industrial standpoint. Manufacturers were obliged to produce on a larger scale, precisely because of the difficulties in importing. Moreover, industry itself had no difficulty in obtaining imported raw materials, because it was granted priorities under the Government's policy of encouraging industrialization, designed to replace imports and foster exports of manufactured goods.

An important indication of Colombia's industrial growth is the fact that industrial employment increased by 9.6 per cent between 1953 and 1955. The increase was greater for technicians and employees (20.7 per cent) than for manual workers (7 per cent), which shows that there
have been improvements in technical levels, ena
industry to develop on the basis of using more specia
personnel and less workers.

During 1956, manufactures in *Cuba* recovered from
previous year's contraction and reached a high rat
development. In this they were stimulated by pu
spending, which was even greater than the high fig
recorded for 1955, and by the increase in world dem
for sugar, which absorbed the entire 1956 crop[5] plus s
900 thousand tons of surplus accumulated in ea
years. Private investment in turn showed a verit
renaissance, particularly in view of the fact that there
been practically no movement in relation to large
industries since the period 1948-52. The preferred b
ches were paper made from sugar-cane bagasse,
rolling, copper products, glass containers, tyres for
and lorries, and wheat flour.

Manufacturing output in *Chile* increased slightl
1956, but several industries were affected by the stabi
tion policy. In earlier years, industry had been abl
operate almost at full capacity, because the acceler
rate of inflation offered it a sustained and vigorous
mand. Once plans for reorganizing the economy
taken effect, however, sales of some commodities fell
sharply because the stabilization of salaries and wa
reduced purchasing power among the country's lar
segment of consumers[6] and because the relative econo
stability suppressed the speculative surplus dem
characteristic of inflation. The industrialists affected
not reduce output during the early months of the y
and large stocks began to accumulate at the facto
apart from those in the hands of wholesalers and retail
This situation was aggravated by severe credit rest
tions, and many industries had to cut back productio
from the second quarter of the year. The cement, tim
and other industries were obliged to reduce their outpu
a result of the decline in the building trade which t
supply. Faced by these conditions, industrialists h
not ventured to purchase new equipment, despite
greater import facilities available. They are mark
time, unable to stimulate demand by reducing prices,
cause they contend that present production costs will
permit it. It should be stressed, however, that the st
making industry increased its production by 20 per c
over that of 1955 due to the great impetus given by
ternal demand.

Ecuador's industry did not find 1956 an easy ye
Consumption always falls sharply during the first quar
of the year, which is the winter period on the coast,
this year the entire first six months were unusually
stable and difficult. There was uneasiness, money
short, sales fell off and credit contracted. A radical
provement occurred during the second half of the year,
the intensive activity was insufficient to offset the d
of the first six months. Hence industry did not reach
1955 levels, which were the highest ever recorded
Ecuador's industrial output. Energy shortages continu
to be a serious problem. Industry has expanded m

---

[4] The effect was weakened gradually as the cost of living rose.

[5] 210,000 tons greater than in 1955.

[6] Salaries and wages represent from 40 to 50 per cent of
munerations in the country and should therefore be considered
the principal determining factor of purchasing power in Ch

dly than the development of energy resources, so that and exceeds supply, and there is a heavy overload, icularly in the capital. Breakdowns and rationing e frequent during the year, and affected the volume sometimes the quality of production.

here is no denying the determination to industrialize cuador. Moreover, the path followed in recent years ncouraging, despite the limitations arising from the of the market and sporadic demand owing to widely ering consumer habits and standards of living among population. Of particular importance is the change ch has taken place in the textile sector, considered e years ago to be the most backward in Latin America. h of the machinery has been renewed, the organization ne industry has improved and the quality of its output been raised. Today it is the largest and most vigorous stry in Ecuador.

he rate of manufacturing output in *Mexico*, which had n high during the first six months of the year, declined htly during the second half in some large sectors of stry. The global rate of increase in industrial production was approximately 8 per cent lower than in 1955, which year it was estimated at around 10 per cent.

s in previous years, the most dynamic sector of Mexi- manufacturing industry was that making capital ds. In the course of the year considerable increases registered in the output of certain basic items, such ig iron, steel ingot and rolled products, in the steel stry; sulphuric acid and ammonium sulphate, in y chemistry; and kraft, printing and writing paper he paper industry. Substantial, although somewhat er, increases than for the above items, were recorded he manufacture of pulp, cement, artificial rayon fibres caustic soda. The level of activity for these capital ds industries as a whole increased by nearly 16 per over the 1955 level, although the rate of increase was htly lower, since it had been 18 per cent in that year. durable consumer goods industries witnessed a con- rable increase in their output. The same did not hold for the non-durable consumer goods industries, which expanded by 2 per cent as against 8.7 per cent in 5.

Paraguay this was a good year for industry which, the first time in 9 years, was able to record a rate of vth as high as 10 per cent. In the period 1947-55, aguayan industry had remained practically stationary, rate of growth not even being equal to that of the ulation; hence it may be considered that the *per capita* dropped. Factors influencing this were the continu- fall in purchasing power, the ceiling prices set by the ernment, the shortage of foreign exchange for replac- equipment or even for essential spare parts, and the ked difference between the exchange rate granted to exporter and the rate authorized for imports. In 1956 situation began to change: the rate of inflation was ed, controls were liberalized and new foreign trade sures were introduced which had a favourable effect ndustrial activity, creating a propitious atmosphere investment in the field of manufactures.

the case of *Peru's* industry also, this was a better than the previous one. Although still subject to strong foreign competition, industry was able to operate at greater intensity, because it found a more active market for its products. Two factors contributed to this change: (*a*) the moderate rise in tariffs for certain competitive manufactures; (*b*) the visible improvement in the quality of domestic production which has occurred in recent years and which may be singled out as one of the positive results of the free trade policy introduced in November 1949. The industrialists have made an effort to improve their output and reduce costs, in order to compete with foreign products.

Equipment was utilized to a greater extent during the year, and there was continued expansion of productive capacity and replacement of antiquated machinery. The most favoured sectors in this connexion were those making textiles, basic chemicals, cement, rubber products and paper.

In *Uruguay* production proceeded at much the same rate as the previous year. Confirmation of this is found in the two following facts: (*a*) imports of raw materials remained at practically the same levels during the two years, and (*b*) electric energy sold by UTE to industry totalled 340 million kWh in 1955 and 346 million in 1956.

The disparity between installed capacity and domestic demand, so typical of a large part of Uruguayan industry, became more pronounced during the first six months of the year, because difficulties in obtaining foreign raw material supplies made it impossible even to meet that demand. This situation improved after August, when a Decree was promulgated abolishing the quota and import permit systems for raw materials, equipment and supplies and thus facilitating greater and more regular imports of such items.[7]

The process of replacing machinery and of expanding industry was more gradual than in 1955. Total equipment imported may be estimated at 12 million dollars in 1956 as against the 17.5 million spent in 1955 under this heading.

In *Venezuela* industrial production exceeded the 1955 level by more then 8 per cent. But the rate of growth declined since it did not reach the average rate for the preceding five years.[8] This decline in the rate was to be expected, because the spectacular expansion of Venezuela's industry in the post-war period had, by 1955, led to import substitution for a large volume of manufactured goods even amounting to saturation in some cases, such as sugar. Successive increases of that nature could therefore scarcely be expected, unless industry embarked on the manufacture of capital goods, which it is now preparing to do very decidedly.[9]

---

[7] The Decree of 3 August 1956 may be described as the event of the year for Uruguayan industry. Its positive effects may be appreciated from the following: (*a*) it liberalized raw material imports, maintaining the same exchange rate—2.10 pesos per dollar—for most of them; (*b*) imported articles similar to those produced in the country became subject to the free exchange rate, with a view to placing industry in a better competitive position; (*c*) the export exchange rates were improved without upsetting the balance of the exchange fund, and this facilitated the placing of Uruguayan manufactures abroad.

[8] Approximately 12 per cent cumulative per year.

[9] After having achieved self-sufficiency in cement manufacture, Venezuela is developing other basic industries, such as the steel-making and petro-chemical industries.

Table 44. Latin America: Structure of industrial output in seven countries

(Percentages of the value of production)

	Argentina 1955	*Chile 1952*	*Uruguay 1954*	*Colombia 1953*	*Venezuela 1955*	*Peru 1955*	*Ecuador 1955*
Foodstuffs	15.8	24.8	27.2	42.2	19.6	24.4	38.0
Beverages	4.0	5.1	8.5		24.2	7.6	10.3
Tobacco	1.8	3.1	1.8		6.6	...	2.1
Textiles	11.6	17.0	12.8	15.2	9.7	26.6	13.7
Leather, footwear and clothing	14.0	9.5	6.1	9.5	5.5	7.6	4.8
Timber and furniture	3.9	3.3	3.3	...	...	3.8	1.5
Pulp and paper and their manufactures	5.8	2.7	3.9	3.8	...	3.0	...
Chemical and pharmaceutical products	8.0	8.2	5.6	7.1	2.2	5.4	7.0
Petroleum and coal derivatives	4.7	1.0	7.7	...	17.6	...	10.4
Rubber products	1.7	1.5	1.9	4.4	2.7	2.6	0.5
Cement, glass and ceramics	3.8	5.7	3.8	7.4	9.7	5.0	4.8
Metals and their manufactures, machinery and vehicles	23.1	16.6	11.3	6.2	...	5.6	3.5
Other industries	1.8	1.5	6.1	4.2	1.3	8.4	3.4

Source: ECLA, based on the latest census data and industrial statistics.

The year continued to bring positive industrial achievements, covering both the installation of new enterprises and the expansion of many existing ones. Both domestic and foreign capital, particularly of United States origin, contributed to this development. It should be stressed that in Venezuela industries are installed under optimum efficiency conditions as a result of the high wages paid; these in turn are determined by those paid in the powerful petroleum industry.

Several sectors of Venezuelan industry encountered various obstacles in the form of competition from foreign goods. In 1956, the dairy, tinned food and, in particular, the textile industries were especially vulnerable. In fact, heavy imports of Japanese textiles have been ousting domestic fabrics from the market, and as a result of the large stocks accumulating, the local textile industry was obliged to reduce its output in 1956.

III. TRENDS BY SECTORS

Trends in 1956 are discussed below for thirteen sectors of manufacturing activity, plus the building trade. The share of each sector varies within the over-all industrial pattern of the different countries, depending not only on the progress made in industrialization, but also on the development possibilities encountered by the particular sector. In a country such as Ecuador, where industrialization is at the initial stages, 97 per cent of manufacturing output consists of direct consumer goods, whereas in Brazil 33 per cent relates to capital goods. The predominance of petroleum in Venezuela's economy means that oil-refining accounts for almost 18 per cent of the value added by industry. By contrast, in a predominantly agricultural country such as Colombia, the food, beverage and tobacco industries constitute 42 per cent of the value of output. Table 44 shows the structure of manufacturing output in seven Latin American countries at different stages of industrialization.

1. Foods and beverages

This sector showed no great expansion in the La American countries, except in Argentina, Uruguay Venezuela, where it increased considerably.[10] In s cases, as in Brazil, production even declined. Bevera increased more than foodstuffs, and within the latter, greatest advances took place in the packing and tinn industries.

Sugar production rose by 4 per cent between 1955 1956. It increased in Argentina, Chile, Colombia, Cu the Dominican Republic, Haiti, Peru and the Cen American countries; it did not change much in Ecua and declined in Brazil, Mexico and Uruguay. In C there was a remarkable increase—nearly 80 per cen due to intensified sugar-beet cultivation and processin On the negative side, the 40 per cent drop in Urugua noteworthy; it was the result of poor beet end sugar-c harvests.

Venezuela shows the greatest relative developm within Latin America's sugar industry in recent ye Subsidized by the domestic consumer, who has b paying high prices, the industry showed an extraordin growth during the period 1948-55. Productive capa reached 240,000 tons in 1956, this being the estima consumption figure for 1965. Hence Venezuela changed from having a sugar deficit to having an exp able surplus, but although 40,000 tons of refined su were exported to several European countries, the y ended with a surplus of 120,000 tons, of which 60,000 t were earmarked for the United States market.

In contrast to the more industrialized countries, Latin America sugar is usually consumed directly. In United States, for instance, over 65 per cent is absor

---

[10] In Argentina and Uruguay the increase was 9 per cent, in Venezuela 8 per cent.

[11] In terms of consumption—242,000 tons in 1956—dome output is still very insignificant.

ble 45. Latin America: Production of beer, ugar, wheat flour and edible vegetable oils

(Thousands of litres and thousands of tons)

Countries	*Beer*	*Sugar*	*Wheat flour*	*Edible vegetable oils*
ntina	373,200	736.1	2,200.0	206.0
il	650,000	2,209.0	1,200.0	120.0
. . . .	120,300	11.5	660.0	. . .
mbia	420,608	260.0	64.0	. . .
. . . .	138,500	4,740.0	67.9	. . .
inican Republic	6,800	651.0	5.0	. . .
dor	42,750	70.5	21.0	0.7
alvador . . .	11,300	. . .	. . .	3.2
temala	12,300	. . .	15.7	. . .
i	. . .	58.0	. . .	2.7
co	755,300	744.0	639.7	64.6
ma	14,850	15.1	15.7	. . .
guay	5,176	19.2	41.0	2.6
. . . .	98,864	688.6	197.6 [a]	27.2 [a]
guay	55,200	18.3	226.0	20.0
zuela	147,000	200.0	—	. . .

urce: United Nations, *Statistical Yearbook* 1956 and *Monthly etin of Statistics*, February 1957; *Ministerio de Comercio* for ntina; *Sindicato da Industria da Cerveja e Bebidas em Geral,* Paulo, for Brazil; *Dirección de Estadística* in Bolivia, Colombia, ador, El Salvador, Guatemala, Mexico and Paraguay; *Depar- nto de Investigaciones Económicas del Banco Central de Vene-* ; direct information in Chile, Peru and Uruguay.

1954.

manufacturing industries, not just by those using its
etening properties but also by the new sugar-chemical
ıstries which have recently developed; this offers pros-
ts which are difficult to forecast but which may be of
siderable importance to Latin America's sugar indus-
in the future.

roduction of edible vegetable oils rose by some 130,000
s. Although the output of cotton-seed oil dropped,
t of peanut, sesame and sunflower oil increased con-
erably; the rise in sunflower oil production was par-
larly high in Argentina.[12]

he meat-packing industry was active in Argentina and
guay, as also the frozen and tinned fish industry in
u.[13] On the other hand, in Chile the fish-packing in-
try faced financial difficulties, mainly because ex-
nge reforms meant that the industry was unable to
pose freely of its dollar earnings, and hence its income
domestic currency was reduced.

able 45 gives production figures for certain items in
food and beverages industry.

Table 46. Latin America: Cigarette production

(Millions of units)

Argentina	20,528	Guatemala	1,676
Bolivia	450	Haiti	1,550
Chile	5,714	Mexico	23,006
Colombia	12,243	Nicaragua	730
Cuba	9,566	Paraguay	530
Dominican Republic .	900	Peru	2,378
Ecuador	733	Uruguay	1,760
El Salvador	751	Venezuela	3,472

Sources: United Nations, *Statistical Yearbook* 1956 and *Monthly Bulletin of Statistics*, February 1957; *Cámara de Fabricantes de Cigarillos*, Buenos Aires, for Argentina; *Departamento Administrativo Nacional de Estadística* for Colombia; *Banco Central* for Ecuador; *Direcciones Generales de Estadística* for El Salvador, Guatemala and Mexico; Industrial Census 1955 for Paraguay; direct information in Chile, Peru and Uruguay.

2. TOBACCO MANUFACTURE

The output of this sector rose considerably in Brazil, Peru and Venezuela, the respective increases being 10 per cent in the first two countries and 6 per cent in the third. Development in the other Latin American republics was more moderate and usually corresponded approximately to the natural increase in demand. There was, however, no falling off in any country, despite the price increases introduced in several of them. The latest figures on cigarette production in Latin America are shown in table 46.

3. TEXTILES

Although other sectors developed more rapidly, the textile industry still held second place in the region's manufacturing output in 1956 in terms of value, capital invested and labour employed. The Latin American volume index rose by 2.5 per cent over the previous year, which means that it was practically the same as the rate of population increase.

The industry operated under favourable conditions in Argentina, Mexico and, in particular, Colombia, where the previous year's production figures were exceeded by almost 20 per cent. The 1955 position was also somewhat improved upon in Peru[14] and Uruguay. In Brazil, by contrast, the situation was difficult because of a contraction in demand which began in July and became steadily more pronounced as the year advanced; industrialists were obliged to cut back their output, proof of this being that in the State of São Paulo, where 60 per cent of Brazil's textile industry is concentrated, energy consumption by this sector fell by 6 per cent between July and December 1956.[15]

Production also dropped in Chile, particularly in wool and rayon; only 30 per cent of productive capacity for an 8-hour shift was used in the mills weaving artificial fibres. In Venezuela the branch most affected was cotton, where the mills had to reduce output and prices in an attempt to place the heavy stocks accumulated since 1955, in which year competition from Japanese textiles became keener.

---

[12] Argentina in 1956 produced 170,000 tons of sunflower oil and 00 tons of peanut oil, these being respectively 100 and 15,000 s higher than the previous year's levels. Nevertheless, sales e relatively low owing to the absence of a foreign market and domestic consumption of imported cotton-seed oil.

[13] In Peru in particular it operated at high levels, a large part ts production being channelled abroad. Of 230,000 tons of fish oaded, 180,000 tons (almost 78 per cent) were processed, and million cases (48 tins each) of tinned fish were produced, as l as 32,000 tons of fish-meal. There was also a substantial rease in the catches and industrial processing of whales, 1,800 these mammals having been caught in 1956.

[14] Except for some factories in the South, which have antiquated equipment and were unable to face the competition of other domestic and foreign mills.

[15] The textile sector absorbed 28.5 per cent of industrial energy consumption in São Paulo.

In 1956, Latin America's textile industry supplied over 90 per cent of the region's demand. Table 47 gives figures for spun and woven cotton and wool, and for the weaving of artificial and synthetic fibres.[16]

The textile industry in Latin America is at three different stages of development, according to the particular country concerned. In Argentina, where a very high point had already been reached at the end of the forties, and in Uruguay, it is at the consolidation phase. It is difficult to expect any considerable short-term increase in these two countries, either in the number of mills or in the labour force. Greater output should be expected to result mainly from steady increases in productivity.[17] In most of the other countries this branch of industry is at the expansion stage, although the degree varies. For example, in Venezuela where this stage was reached only recently, expansion is active; on the other hand, growth is relatively slow in Brazil, Chile and Mexico, which have practically passed this stage and reached that of consolidation. Again, in Central America the textile sector is still at the formative stage. The next few years may well witness a considerable increase in employment and in volume of output[18] as a result of the new mills starting up and the rapid growth of existing ones.

Table 47. Latin America: Production of the tex industry

(Tons of finished products)

Countries	Cotton	Wool	Silk and artificial synthe
Argentina	95,000	29,700	12,5
Bolivia	1,360	700	1
Brazil	219,000	20,800	26,2
Chile	27,000	9,300	4,7
Colombia	31,000 [a]	...	...
Costa Rica	300	—	9
Cuba	6,500	—	10,00
Dominican Republic	2,300	—	...
Ecuador	5,590	200	20
El Salvador	3,150	—	23
Guatemala	2,014	—	21
Haiti	2,600	—	...
Mexico	87,860	...	19,73
Nicaragua	1,690	—	9
Paraguay	302	125	
Peru	16,500	2,520	2,00
Uruguay	9,500	15,900	2,00
Venezuela	5,417	158	4,08

Sources: Dirección del Algodòn y Otros Textiles, Ministerio *Comercio* for Argentina; *Direcciones Generales de Estadística* Bolivia, El Salvador and Paraguay; *Sindicato da Industria* *Fiaçao e Tecelagem em Geral*, São Paulo, for Brazil; *Administrac* *General de Estadística* for Colombia; *Ministerio de Economía* Chile; *Banco Central* for Ecuador; *Banco Nacional de Comer* *Exterior and Dirección General de Estadística* for Mexico; *Cám* *Algodonera del Perú* and *Banco de Fomento Agropecuario* for Pe direct information in Costa Rica, Cuba, Dominican Repub Haiti, Nicaragua, Uruguay and Venezuela.

[a] 1954.

Table 48. Latin America: Equipment installed in the textile industry, 1956

Country	Spindles		Looms			Spindles per loom	
	Cotton	Wool	Cotton	Wool	Artificial fibres	Cotton	Wool
TOTAL	6,834,157	1,142,190	206,937	22,745	58,862	33.0	50.2
Argentina	930,454	470,000	23,381	9,000	7,500	39.8	52.2
Bolivia	21,000	20,000	780	350	150	27.0	57.0
Brazil	3,480,000	252,000	115,000	7,100	27,000	30.3	35.5
Chile	199,453	96,974	5,146	1,500	3,500	38.8	64.6
Colombia	386,000	7,614	7,077	894	2,270	54.5	8.5
Costa Rica	4,140	—	124	—	200	33.4	—
Cuba	71,536	...	2,478	...	...	28.9	...
Ecuador	85,000	4,102	1,636	91	376	52.0	45.1
El Salvador	71,936	—	1,494	—	...	48.1	—
Guatemala	38,680	—	937	—	144	41.0	—
Honduras	3,000	—	120	—	...	25.0	—
Mexico	1,100,000	132,000	37,500	2,050	14,350	29.3	64.4
Nicaragua	15,500	—	492	—	43	31.5	—
Paraguay	23,000	1,500	500	40	20	53.0	37.5
Peru	207,000	63,000	6,356	950	1,020	32.6	66.3
Uruguay	115,958	95,000	2,100	770	812	55.2	123.4
Venezuela	81,500	—	1,816	74	1,477	44.9	—

Sources: United Nations, *Statistical Yearbook 1955*; *Ministerio de Comercio de la Nación, Dirección del Algodón y otros Textiles*, for Argentina; *Sindicato de Fiaçao e Tecelagem em Geral*, São Paulo, for Brazil; *Ministerio de Economía*, for Chile; *Asociación de Industriales Textiles*, for Ecuador; *Oficina de Investigaciones Industriales del Banco de México*, for Mexico; *Ministerio de Fomento y Obras Públicas, Dirección de Industrias y Electricidad*, for Peru; *Asociación de Industriales Textiles*, for Uruguay and direct information from the producing firms.

---

[16] Rayon and acetate fibres are produced by the chemical industry. See item 8 (*c*) of this section.

[17] Between 1954 and 1955, Uruguay's textile output rose by 6 per cent, whereas the total number of employees and workers was reduced from 25,144 to 24,523.

[18] Central American production of cotton textiles in 1955 was about 27 million metres, whereas apparent consumption exceeded 90 million metres.

e 49. Latin America: Modernization of cotton looms in six countries, 1949-54

Countries	1949		1954	
	Total	*Automatic*	*Total*	*Automatic*
tina	20,750	8,294	23,381	11,793
	104,920	4,774	109,716	35,692
	5,012	3,608	5,146	3,699
or	1,454	—	1,636	693
	34,153	2,094	37,501	5,819
	6,304	1,890	6,356	2,137
TOTAL	172,413	20,660	183,736	59,833

rces: Ministerio de Comercio de la Nación, Dirección del n y otros Textiles, for Argentina; *Sindicato de Fiaçao e gem em Geral,* São Paulo, for Brazil; *Ministerio de Economía,* ile; *Asociación de Industriales Textiles,* for Ecuador; *Oficina estigaciones Industriales del Banco de México,* for Mexico; *erio de Fomento y Obras Públicas, Dirección de Industrias y cidad,* for Peru.

ere are in Latin America more than 14,000 establishs engaged in the spinning, weaving and finishing of e fibres, and they employ altogether some 850,000 e. The employment ratio per establishment is vely high but is disproportionate in relation to the ction levels achieved, so that productivity indices w.

number of spindles per loom over the entire region 5 for cotton and 50.2 for wool (see table 48). The s are relatively good for wool but they are low for 1,[19] which brings out two facts: (*a*) the predominance rse looms making popular fabrics, which use low- yarns since they give a relatively higher spindle than the finer ones; (*b*) the still limited number of natic looms, which use more yarn than the mechannes to make the same product in the same time. hough it is a characteristic of Latin America's texdustry that many of its installations are old, conble progress in the modernization of equipment has t been made in recent years. Information is not ble for all countries nor for all branches of the indusut some idea may be gained from the data in table hich refers to the cotton looms of 6 countries.

an be seen that for the countries selected, as a whole, umber of looms not only increased by 7 per cent een 1949 and 1954, but that at the same time the ntage of automatic looms rose from 12 to 32. In the ing mills the modernization process has been slower nly partial. For example, multiple process pickers been replaced by single process pickers, and long ing systems by continuous ones, instead of the ines being replaced by completely new ones, which 1 have entailed a much higher investment.

4. TANNING

is is one of the oldest industries in most Latin Ameriountries. It has, however, made relatively little ess, in terms of either technical skills or modernity of equipment. Some countries, like Argentina, Brazil, Paraguay and Uruguay, are specially endowed for this industry and could compete successfully on any market. The need to modernize and rationalize this sector is all the greater since its products are being displaced, even in the Latin American countries, by artificial substitutes for leather. Although these may be cheaper and may sometimes have a better appearance, they may not always be of such good quality or last as long. Hence this is an industry where there is plenty of room for improvement, ranging from the care of the animals to the leather sold.

In 1956 the tanning industry remained stationary. There were countries where a decline was recorded, such as Chile and in particular Mexico. Mexico faced a serious crisis because of the lack of buyers for its products. The degree of utilization of equipment, which had remained at between 60 and 70 per cent of total capacity, had to be even further reduced, because there were heavy stocks of hides and sole leather which continued to mount and which the footwear industry could not absorb, because of the decline in demand.

There was no great change in Argentina or in Uruguay, although the latter's exports in 1956 were almost 20 per cent higher than those of the preceding year.[20] On the other hand Brazil had a better year than in 1955, despite difficulties in the supply of tanning materials. Domestic quebracho was in short supply as a result of floods and imported quebracho was difficult to obtain. In spite of foreign exchange difficulties, there was some modernization in 1956; it might be said that 30 per cent of Brazilian tanneries had modern installations by the end of the year.

This industry's greatest activity in Latin America was recorded in Colombia, where its development was directed principally towards the Central American and Venezuelan markets. The fact that the industry made no progress in Venezuela was due precisely to Colombian competition in medium-quality leathers and to European in fine leathers.

5. FOOTWEAR AND GARMENTS

This branch of industry showed a slow expansion during 1956. Although in the case of footwear the situation remained stationary, there was livelier activity in the case of made-up garments. This general sector is the one with the greatest number of small workshops, so that statistics fail to reflect a considerable part of output. The footwear industry is even more scattered than the clothing industry; the latter tends to be concentrated in the more densely populated areas which supply it with the labour and the market that it requires.

In spite of the development of the ready-made clothing industry in recent years, leather footwear manufacture still constitutes the largest group in the sector. Latin American production in 1956 is estimated at over 100 million pairs (see table 50).

Although the levels of demand are very low in most

---

[19] here are 78.7 spindles for every cotton loom in the United dom, and 81.5 in the United States.

[20] The total number of hides handled by the Uruguayan tanneries is estimated at 560,000 units in 1955 and 580,000 units in 1956. Hence the increased exports must be attributed to a contraction in domestic consumption, which had averaged 450,000 hides a year during the last six-year period.

Table 50. Latin America: Production of leather footwear

(Thousands of pairs)

Argentina	17,000[a]	El Salvador	141
Brazil	30,000[b]	Guatemala	343
Bolivia	1,300[c]	Mexico	13,000
Chile	9,000	Panama	180
Colombia	3,800	Peru	3,030[e]
Cuba	13,380[d]	Uruguay	2,815
Dominican Republic	592	Venezuela	4,000
Ecuador	346		

Sources: Ministerio de Comercio for Argentina; *Federaçao das Industrias do Estado de São Paulo*, for Brazil; *Departamento de Economía Interna, Banco Nacional* for Cuba; *Dirección de Estadística* for El Salvador and Guatemala; *Banco Central* for Ecuador; direct information for the other countries.

[a] In addition Argentina produces 30 million pairs of vulcanized footwear and 20 million pairs of hemp-soled slippers.

[b] Total production, including hemp-soled slippers and footwear made of other materials, amounts to 50 million pairs.

[c] 1954.

[d] Estimate based on 8 months production.

[e] In addition 700,000 pairs of vulcanized footwear are produced.

countries within the region,[21] the leather footwear industry in nearly all of them has a surplus of idle productive capacity. It is quite common to find utilization coefficients of about 40 and 50 per cent of total productive capacity. This is because demand is mainly confined to the urban population, while it continues to be very low in rural areas.

One of the difficult problems confronting this branch of industry, particularly in the more developed countries of the region, is the heavy competition from artisan shops, which is constantly developing to the detriment of the established industry. Each partially skilled worker is a potential competitor of the factory where he works, because with relatively modest means he can become an entrepreneur and compete on the market with the output of the large establishments.

Argentine footwear production declined slightly in 1956. The year witnessed some weakening of domestic demand, moreover at a time when the industry had to meet a rise in raw material prices and in labour costs. In view of this, manufacturers tried to place their surplus production abroad.[22]

In Brazil, activity remained at the previous year's levels. The industry met with some difficulty in placing its greater output, mainly because the relatively high selling prices limited demand. The increase in the selling price was due to wage increases which were not offset by any increase in productivity and which were transferred to prices, and to fiscal taxation on the sale of footwear. These taxes, added to those on production, amounted to nearly 20 per cent of the retail price of footwear to the public.

In Chile, output fell by nearly 35 per cent in rel to the 1955 figures. The contraction in demand, w was more or less general in all sectors of Chilean indu was felt particularly in the footwear branch, becaus decline in sales began at a time when the trade was ho heavy stocks.

The fourth largest Latin American producer of wear is Uruguay. Its industry continued to opera the low levels of the previous year, that is, using onl per cent of productive capacity. Nevertheless, a factory making vulcanized footwear was opened, wit annual capacity of 800,000 thousand pairs. The possible short-term course for overcoming this ch disequilibrium between productive capacity and foot production is through exports; but this is handicappe high costs which are mainly caused by high wages w are not usually accompanied by an equivalent prod vity.[23]

In Colombia, Ecuador and Peru the industry show slight upward trend; on the other hand production d ped in Venezuela as a result of foreign competition, an Mexico because demand fell off.

6. TIMBER

Timber production remained relatively stagnant du 1956, being estimated at some 9 million cubic metre sawnwood and 195,000 cubic metres of plywood. production figures are shown in table 51.

In nearly all the producing countries, the industry f certain common problems. These include (*a*) the lac adequate credit, since the amounts available are al always insufficient for this type of activity; (*b*) the lac any effective reforestation plan, so that producers obliged to penetrate ever more deeply into the forests steadily increasing distance from processing and sumer centres; (*c*) the lack of good roads and the high freight rates which add to the cost of the prod and (*d*) the frequent lack of adequate machinery for technical processing of the timber.

Table 51. Latin America: Production and consu tion of timber

(Thousands of cubic metres)

Country	*Production*		*Consum*
	Sawnwood	*Plywood*	
Argentina	210	30	1,4
Brazil	4,270	97	3,5
Chile	840	13	6
Colombia	670	6	6
Cuba	53	...	2
Mexico	940	20	9
Paraguay	162	2	..
Peru	86	5	
Uruguay	...	5	1
Venezuela	143	6	..

Sources: Ministerio de Comercio for Argentina; *Instituto N nal do Pinho* for Brazil; direct information for Uruguay; and for the other countries.

---

[21] Only in Argentina, Chile, Uruguay and Venezuela is leather footwear consumption so high as 1 to 2 pairs a year.

[22] The Argentine leather footwear industry could produce 40 million pairs a year if it operated at full capacity. In 1956 it produced 17 million pairs; thus 58 per cent of installed capacity was wasted.

[23] Labour is the most important factor in determining the of footwear, since it represents between 40 and 50 per cent o price at the factory.

e sawmills of Latin America have not shared in the al boom of this industry. Possible exceptions might azil and Chile, although progress has been very slight mparison with their forest resources. Countries like mbia and Paraguay, with 5.2 and 4.3 hectares *per* a of accessible forests, are particularly well endowed ve a great timber industry which might become an rtant item in their respective foreign exchange ngs.

duction in Argentina is relatively small. In 1956 it sented barely 15 per cent of a demand estimated at illion cubic metres. On the other hand, it is large in l, where this sector had a rather good year on the stic market but a poor one with regard to exports. woods were consumed entirely within the country od prices; but pine, which is an export wood, was ted by the contraction in sales to Argentina, its larg- ustomer. Exports to other countries—Belgium, , the Federal Republic of Germany, the Union of n Africa, the United Kingdom and Uruguay—did ffset the reduction in sales to Argentina.

Chile the industry operated at levels below those of In the first place, the drop in building activity t a considerable reduction in domestic sales; in the d, exports to Argentina[24] were hampered by Chile's asingly favourable balance-of-payments situation in on to Argentina.

Venezuela, higher production was recorded in this try, because building activity was livelier during One of the serious problems confronting this sector hat the sources of supply are becoming increasingly nt from the principal consumer centre, which is as. Hence costs are steadily increasing because the s of transport used, namely road transport, is not heapest for this type of commodity despite the ex- t road network recently built in the country.

7. Pulp and paper

is sector underwent a more pronounced growth in than in 1955. On the basis of the volume of output e countries which together represent almost 100 per of the pulp and over 90 per cent of the paper manu- red in Latin America, there was almost a 10 per cent ase over the previous year's levels.[25] Argentina and co were the more important contributors to this ase in Latin America's paper output, followed on a smaller scale by Peru and Colombia. There was a increase in Brazil, but the situation remained sta- ry in Chile, Uruguay and Venezuela.

e greater output achieved—80,500 tons for the entire n—was the result not only of expanded installations also of an increase in the utilization coefficient of oment, which had already been high in 1955 and n gave this sector one of the highest efficiency ratings atin American industry.

Import substitution is nearing completion in several countries for such items as writing and printing papers, wrapping papers, paperboard and board. Only a few special types remain; the restricted demand for them does not justify their manufacture at the present time. This is not the case with newsprint, imports of which into the region as a whole amounted to 430,000 tons in 1956, with a value of nearly 75 million dollars.

Production figures for paper and pulp in Latin America during the last two years are to be found in table 52.

In Argentina the industry increased its output by 11 per cent over the 1955 figure. The mills worked at full capacity under the pressure of an active demand which was largely met. The problems affecting this sector were largely solved by the fact that foreign exchange was obtained automatically. The industrialists were able to reduce their raw materials stocks, and the capital which had formerly been immobilized in the mill yards could be used to purchase equipment so that a process of expanding productive capacity was begun.

In Brazil there was only a slight increase in production, exceeding the previous year's levels by no more than 2 per cent. Consumption was some 480,000 tons, newsprint accounting for nearly 170,000 and other papers, paperboard and board for 310,000 tons. Although Brazil is almost self-sufficient in the last-mentioned types, since imports are confined to a few special types of paper, domestic output of newsprint does not cover as much as 18 per cent of demand.

There were sixty-one paper mills in Brazil in 1956, with an over-all productive capacity of 360,000 tons a year. Some 68 per cent of the mills had a capacity of less than 5,000 tons and only five produced more than 10,000 tons. This shows that most of the industry is on a small scale. During the year several companies carried out expansions projects,[26] some of which included pulping facilities, with a view to integrating the mills.[27]

Newsprint production remained at the same figures as in recent years. Several factors worked against an increase in output, including: (*a*) the preferential treatment accorded to imported newsprint,[28] a situation which is common to several other Latin American countries and which discourages many manufacturing projects; (*b*) the high cost of the necessary equipment and the fact that production has to be on a large scale to be economic; (*c*) the lack of mechanical pulp. With regard to this last point, it should be remembered that this type of paper can only be produced economically in integrated mills making

---

rgentina has, in recent years, been Chile's best customer, much because of the volume absorbed—which did not d 25 to 30 per cent—but because the timber exported was of better grade and represented about 50 per cent of the of production. This explains the great impact on output of rop in exports to that country.

The 1955 increase over the previous year was 5 per cent.

[26] It is important in this connexion to mention that the progress of the Brazilian mechanical industry has made the country self-sufficient in paper-making machines which considerably facilitates the expansion of this branch of industry.

[27] Pulp consumption in Brazil amounted to some 200,000 tons in 1956. The country's own fifteen mills supplied 30 per cent of this total; some 55 per cent was imported in the form of raw material and the rest represents the pulp contained in imported paper. To become self-sufficient, it is estimated that Brazil would have to produce about 210,000 tons of paper in 1960. There are several projects for this purpose in the States of São Paulo, Paraná, Santa Catarina and Rio de Janeiro which will very probably materialize.

[28] Newsprint is the only product imported at the rate of 18.82 cruzeiros per dollar.

Table 52. Latin America: Production of pulp, paper and board

(Tons)

	Mechanical pulp	*Chemical pulp*	*News-print*	*Other papers*	*Paperboard and board*	*Total paper and board*
			1955			
Latin America	...	172,541	64,906	691,202	196,929	953,047
Argentina	17,066	38,834	21,591	177,220	84,823	283,634
Brazil	...	62,000	31,836	268,684	32,602	333,149
Chile	17,845	2,207	11,452	40,501	1,653 [a]	53,606
Colombia	—	—	—	—	10,620	10,620
Mexico	19,068	57,500	...	190,000	57,000	247,000
Peru	—	12,000	—	14,797	10,231	25,028
Uruguay	—	—	—	...	...	26,500
Venezuela	—	—	—	14,500	—	14,500
			1956			
Latin America	...	191,633	59,391	774,039	200,402	1,033,832
Argentina	16,721	47,808	17,177	205,877	84,446	307,500
Brazil	...	65,000	31,000	274,000	33,250	338,250
Chile	17,500		11,214	39,132	2,187 [a]	52,533
Colombia	—	—	—	—	12,000	12,000
Mexico	20,000 [b]	63,000	...	235,000	58,500	293,500
Peru	—	15,825	—	20,030	10,013	30,043
Uruguay	3,500	—	—	...	...	26,500
Venezuela	—	—	—	14,500	—	14,500

Sources: Ministerio de Comercio for Argentina; direct information for Brazil, Chile, Peru, Uruguay and Venezuela; *Departamento Administrativo Nacional de Estadística* and *Asociación Nacional de Industriales* for Colombia; *Cámara Nacional de Industrias del Papel* for Mexico.

[a] Does not include the output of several small factories which is estimated to have been around 8,000 tons.

[b] Estimated.

their own mechanical pulp and, to a lesser degree, chemical pulp. Such mills cannot develop on the basis of imported raw material. Newsprint consumption is increasing rapidly, and as production has remained stationary, Brazil has to import ever-increasing quantities which constitute a growing burden on the balance of payments and help to aggravate foreign exchange difficulties. To meet the demand for newsprint, Brazil would by 1960 have to expand its productive capacity by 160,000 tons. Hence, in view of the present situation, domestic industry will be insufficient to meet the short-term growth of demand.

Colombia only produces thick paper and board, but there was a considerable increase in production in this line during 1956. Work continued on the installation of the mill to make paper from tropical woods (200 tons daily capacity) which a mixed foreign and domestic capital consortium is erecting at Barrancabermeja.

There was slightly lowered output in Chile, yet even with the fall in demand the industry closed the year with twice the amount of stocks held in 1955. Mexico, by contrast, showed a strong rate of growth which accentuated the trend recorded in this sector over the last three years. Production increased by 22 per cent over the 1955 figures. Since 1953 the industry has invested some 575 million pesos in the installation of new pulp and paper mills and in the expansion of existing ones. The five new installations put up in these last few years have given an added capacity of 60,000 tons of sulphite pulp, which has raised the country's total output to 100,000 tons of unbleached and 70,000 tons of bleached pulp.

There was also considerable expansion in Peru. Productive capacity rose by 25 per cent and production 20 per cent. The same was not true of either Uruguay Venezuela. In the former, output was once again 26, tons, of which printing papers accounted for 8,000 to In Venezuela output was again 14,500 tons, 6,000 which were wrapping paper and 8,500 toilet pap While no expansion plans were contemplated in Urugu Venezuela was actively proceeding to instal a new which is being erected in the State of Carabobo, on banks of the Yaracuy. It is to have an initial capacity 40,000 tons of kraft-type paper, produced at first w imported pulp and subsequently from bagasse pulp to made by the mill itself.

8. Chemical products

The chemical industry sector was among the m active branches of Latin American industry in 19 Demand for chemical and pharmaceutical products as a rule more intense than in 1955, so that there was expanding rate of production and, in some items, a c siderable volume of imports.

This industry, and in particular the branch of orga products, expanded most in Brazil. Both domestic a foreign capital shared in the process, particularly that German, French and Italian origin. Plants were instal for making styrene, methyl alcohol, acetone, acetate a vinyl chloride, while the *Petroquimica de Cubatao* pla was practically completed and will shortly produce nit genous fertilizers, to be followed later by synthetic rubb The pharmaceutical industry recovered from the p vious years' declining activity; the factories making ic products operated on a more active scale, although encountered difficulties in importing pigments and

hough production increases in Argentina were only , new projects were started, particularly in the field thetic resins. There were no great changes in Chile guay, but there was marked development in Colom- articularly in pharmaceutical products and paints. bia's output in this particular branch amounted to 8,000 tons in 1956, which covered 84 per cent of nd. The industry was lively in Mexico and Venezue- l exceeded the 1955 levels in Peru.

(a) *Sodium alkalis*

in America's production of sodium alkalis increased er cent with regard to 1955 (see table 53). Never- s, the rate of increase in production failed to keep with the 10 per cent increase in consumption. De- he growth of the respective domestic markets, this ry's development continues to encounter problems st Latin American countries. In the case of elec- ic caustic soda, expansion plans were limited by lties in finding a solution to three problems: ne (utilization); energy (cheap and plentiful); and n chloride (of good quality and inexpensive). The ne problem is the most serious one, because the sed demand for caustic soda is not usually accom- d by a parallel expansion in the market for chlorine.[29] case of soda ash, several projects were discouraged heavy investments needed for a Solvay installation ne need to be assured of a market of economic size. theless the growing consumption is changing the ion in the more advanced Latin American countries.

Brazil, where the annual growth rate of demand for over the last six years has been 10 per cent for ash and 15 per cent for caustic soda, an alkali ation of the average American type is justified. in 1956 there was greater activity in the work of bling the Cabo Frío plant (100,000 tons a year of ash) which is to be completed early in 1959.

Zipaquirá plant in Colombia operated at higher than in 1955. In view of the increased demand, the *esa Colombiana de Alkalis* was obliged to expand its ment. During 1956 their installation of the new ment to produce bicarbonate of soda was begun, will double output very soon,[30] and studies were to double soda ash production as well. At the time an electrolytic plant was installed to produce ily tons of ultra-pure caustic soda to meet the de- from the rayon mills which at present import this aterial.[31] It is important to mention that improved efficiency in operating the Zipaquirá plant has helped to reduce the selling prices fixed by the enterprise some five years ago, when it commenced operations.

Table 53. Latin America: Production of sodium alkalis

	Caustic soda		*Soda ash*	
	1955	*1956*	*1955*	*1956*
Latin America . . .	98,615	104,147	14,289	15,894
Argentina	28,000	30,000	—	—
Brazil [a]	30,000	30,000	—	—
Chile	3,970	3,756	[b]	[b]
Colombia	11,500	13,179	14,289	15,894
Ecuador	50	50	—	—
Mexico	23,765	25,800	. . .	. . .
Peru	1,330	1,362	—	—

Sources: Dirección General de Industrias for Argentina; *Confederacão Nacional da Indústria* for Brazil; *Compañía Colombiana de Alcalis S.A.* for Colombia; *Junta Nacional de Planificación y Coordinación Económica* for Ecuador; direct information in Mexico and Peru.

[a] Figures for productive capacity; everything indicates that in both years the industry worked at full capacity.

[b] There is some production not recorded in the statistics; it is obtained by reducing sodium nitrate with carbon and subsequently carbonizing it with soda ash.

Large increases were also recorded in Mexico, because the country's main alkali producing enterprise expanded its plant.

(b) *Petrochemical industries*

Nitrogen fixation and the synthesis of various basic chemical compounds by using natural gas, the by-products of the refineries, or by cracking petroleum hydrocarbons is an industry of growing importance in Latin America. Although the first plant of this type had been erected in Argentina as early as 1944, to make isopropyl alcohol, no further initiative was taken until 1951. In that year Mexico's ammonium sulphate factory and a toluene factory in Argentina went into operation. Building of petrochemical plants began in 1952 in Brazil, in 1955 in Colombia and Venezuela, with another new one in Mexico and, in 1956, the one in Peru. Most of these plants make nitrogenous fertilizers, i.e., ammonium sulphate, ammonium nitrate and urea.

The petrochemical industries derive more value from petroleum than does refining itself. Hence some of the larger refineries do not only make the conventional petroleum by-products but process hydrocarbon raw materials as well in order to obtain basic chemical products.

In Argentina the industry operated normally in 1956 and output amounted to nearly 1,650 tons of toluene. In Mexico the 1955 figures were exceeded by 28 per cent, with an output of 87,635 tons of ammonium sulphate.

In Brazil work continued on the Cubatao installations which were almost complete by the end of the year. They will produce 23,000 tons of elemental nitrogen.[32]

---

is interesting to stress the different situation of this electro- ndustry in a highly developed country such as the United and in a Latin American country. In the first case chlorine main product, for which there is a heavy demand, particu- om the synthetic chemical industry, whereas caustic soda is -product. In the Latin American countries the opposite is It is likely that the new method of making superphosphates chloric acid may shortly do away with this problem of e utilization.

n May 1957.

t will start operating in August 1957.

[32] With the new Brazilian calcium cyanamide factory, production will amount to 28,000 tons of nitrogen, that is, double the present demand for nitrogenous fertilizers. There is no need to stress the benefits to the country's agriculture that will result from the greater use that can be made of such fertilizers.

Table 54. Latin America: Production of rayon and acetate

(Tons)

	1955 total	1956					
		Total	Filament			Cut fibre	
			Rayon for textiles	Rayon for tyres	Acetate	Rayon	Acetate
Latin America	86,428	89,369	...	...	...	...	...
Argentina	12,338	14,650	8,900	2,380	1,500	1,870	—
Brazil	32,000	32,100	13,380	7,920	4,860	4,980	960
Chile	3,856 [b]			—			
Colombia	7,439	9,160	...	—	[a]	...	[a]
Cuba	9 512	10,730	790	5,640	—	4,300	—
Mexico	16,960	18,464	...	1,700	...	...	...
Peru	1,198	1,140	865	—	275	—	—
Uruguay	725	725	—	—	725	—	—
Venezuela	2,400	2,400	—	—	[c]	—	[c]

Sources: Cámara de Fabricantes de Sedas y Fibras Artificiales for Argentina; *Sindicato da Industria de Fiaçao e Tecelagem em Geral*, for Brazil; *Asociación Nacional de Industriales* for Colombia; direct information in Cuba, Chile, Mexico, Peru, Uruguay and Venezuela.

[a] In 1956 Colombia produced 7,000 tons of acetate (filament and cut fibre).

[b] 1954.

[c] 2,400 in Venezuela.

Progress was also made in the assembly of a unit to produce 57 daily tons of ethene. This is a valuable product for organic synthesis which is also being used in the country to produce polystyrene, polyethylene and chlorated by-products. The plant making synthetic ammonia and its by-products and the ethene plant are the first two installations of a vast plan—the "petrochemical belt"—which PETROBRAS proposes to develop around the Cubatao refinery, at present the largest in Brazil. The event of the year in Peru, Colombia and Venezuela, in the chemical sector, was the work carried out to instal the petrochemical industry. Peru, which commenced this work in 1956, will produce ammonium nitrate and ammonium sulphate; Colombia and Venezuela will make ammonium nitrate and urea. The work proceeded actively in Colombia and was practically concluded in Venezuela. *Petroquimica Venezolana*, the largest of the three projects, is a vigorous reality, and forecasts even indicate that part of its output will be exported.

(c) *Artificial and synthetic filaments*

Rayon and acetate production reached higher levels in 1956 than in 1955. The increase was at its most moderate in the last five years, because import substitution—particularly with regard to rayon—had been almost complete in 1955 in each of the larger producing countries.

Production figures for both artificial fibres over the last two years are given in table 54. Data for synthetic fibres are not shown because this is still a new industry in Latin America; production was confined to small amounts of nylon in Argentina (300 tons), in Brazil (300 tons) and in Mexico (85 tons) made from imported intermediate products.

The increase was greater for acetate than for rayon, because in the first case there was still some margin for replacing imports; and it was greater for cut fibre than for filament. This was partly due to the fact that consumers continued to prefer cotton articles to articles made from filament.

Total productive capacity rose from 107,400 ton 1955 to 117,000 tons in 1956. In 1956, there were twe seven Latin American factories making artificial fil distributed as follows: five in Argentina, nine in Br two in Chile, three in Colombia, one in Cuba, two in M co, two in Peru, one in Uruguay and two in Venezu

(d) *Plastic resins*

Production of moulded plastics has risen consider in Latin America in recent years. So far the bulk consists of articles for personal and domestic use, bu future lies in the replacement of certain non-ferrous m used in industry.

Only three countries in Latin America are at the ment manufacturing plastic resins, viz. Argentina, B and Mexico. In Argentina, production amounted in to 7,000 tons and was limited to phenol-formalde (bakelite) and urea-formaldehide. Manufacture of pl resins has shown the greatest activity in Brazil. Ou in 1956 is estimated at 24,000 tons,[33] divided betw polystyrene, chloride of polyvinyl, bakelite, urea-for dehide, cellulose acetate, polyethylene, melamine acrilic resins. Moreover this is an industry which ha ceived one of the largest proportionate technical financial contributions from foreign capital in Brazil. the total capital invested, estimated at some 1,700 mi cruzeiros, 55 per cent is Brazilian and the rest is of Ur States and European origin.

(e) *Pharmaceutical products*

The pharmaceutical industry is one of the more portant branches of the chemical sector since it prod from 40 to 70 per cent of the total value of output. put has developed considerably in recent years, des the fact that much of it depends on imported raw mate of intermediate products. Moreover, there are wo

---

[33] It was 6,900 tons in 1951.

us enterprises which have established branches in
republics and in many cases do little more than pack
products. Except for Argentina, Mexico and, in
cular, Brazil, the profitability of producing solely for
omestic market—even in the case of drugs for which
is a relatively high demand such as aspirin—seems
precarious in most of the Latin American countries.
xception should be made in the case of some anti-
s such as penicillin, because the biochemical indus-
use simple and accessible raw materials which obtain
inal product by fermentation. This explains the
h of such production in several countries during the
our years.

armacy is essentially a dynamic industry, impelled
ientific advances. It is always putting new products
e market. Changes are constantly taking place with
w to increasing potency, improving stability, reduc-
secondary reactions, guaranteeing clinical safety,
lening the range of prescriptions, etc.[34] This requires
al and, in particular, a rather broad market. That is
only two countries in Latin America—Argentina
Brazil—can boast of a true pharmaceutical industry.
lian development was spectacular during the period
56. At the end of 1956, there were 525 pharmaceutic-
erprises in Brazil, thirty-one of which had an annual
al of over 100 million cruzeiros each. More than half
em were wholly or partly owned by foreign capital.
uction in 1956 was estimated at 445 million medicinal
with a value of nearly 11,400 million cruzeiros.

ere was also considerable activity in Colombia. Last
the industry succeeded in meeting over 50 per cent
e country's requirements and the expansions under-
enabled it to replace imports to the amount of
illion dollars in 1956.

e industry continued to expand in Venezuela, al-
gh not at the rate recorded in the period 1949-55.
48 it had supplied 20 per cent of demand, while in
it covered 55 per cent. In Chile, Peru and Uruguay
were no great changes. In Ecuador this branch of
try continued to progress and to direct its output
rds the Central American markets.

9. RUBBER PRODUCTS

e rubber-manufacturing industry lost ground in 1956.
American production was stabilized at the previous
s levels. It rose in Chile, Colombia, Mexico, Peru and
zuela, varied scarcely at all in Argentina and Cuba,
dropped in Brazil and Uruguay, this last decline offset
n the Latin American total the increases recorded for
irst five countries.

re manufacture, which is the largest activity in the
r and absorbs over 70 per cent of Latin America's
er consumption, fell off slightly in relation to the
ous year. This was mainly because of a contraction
ding 12 per cent in Brazil, which is the region's largest
ucer (see table 55).

Table 55. Latin America: Production of Tyres

(Thousands of units)

	1955 total	*1956*			
		Total	*Passenger cars*	*Lorries and buses*	*Tractors*
Latin America	5,725	5,679	...	...	...
Argentina . .	1,154	1,095	614.0	387.0	91.6
Brazil	2,185	1,915	1,096.1	749.2	69.2
Chile	146	192	88.5	103.5	—
Colombia . . .	...	600[a]			
Cuba	101	131[b]	...	...	...
Mexico	893	959	...	...	...
Peru	139	153	...	...	—
Uruguay . . .	149	140	95	45	—
Venezuela . .	417	494	...	...	...

Source: Dirección General de Industrias for Argentina; *Commissão Executiva de Defensa da Borracha* for Brazil; *Asociación Nacional de Industriales* for Colombia; *Dirección General de Estadística* for Mexico and Venezuela; direct information for Chile, Cuba, Peru and Uruguay.

[a] Estimate.

[b] Estimate based on 9 months' production.

Other manufactures based on rubber operated at practically the same rate as the preceding year, except in the case of vulcanized footwear, production of which rose in Argentina and Brazil, and began in Uruguay.

In Argentina the industry operated at the same high levels as in 1955, utilizing, in the case of tyres, nearly 100 per cent of its productive capacity. As a result of the Central Bank's authorization to allow free-market imports of lorries and small cars without tyres, there was a corresponding increase in tyre requirements, particularly for these vehicles. Demand was so intense that the factories could not meet it and, in December, some 6,000 tyres had to be imported. At the same time it was agreed to expand the plants by purchasing new equipment, which will enter into operation in the second half of 1957. Production of agricultural-type tyres also increased considerably after September with the installation of new machinery.

Production declined in Brazil. Import restrictions on vehicles resulted in a sharp drop in the demand for tyres. On the other hand, the light rubber industry was active but did not succeed in offsetting the fall recorded for tyres and inner tubes.

The industry had sufficient raw material in nearly all countries, although some had difficulty in obtaining it, particularly during the first half of the year. Latin American rubber consumption in 1956 was estimated at 105,000 tons, only 27,000 of which are produced in the region.

Brazil is the largest rubber producer in Latin America. In 1956 it obtained 23,000 tons (dry weight), which covered 60 per cent of the country's requirements. Yet the Brazilian industry faces a short-term rubber supply problem, because domestic output—which has so far been completely extractive, individual productivity being very low—has become stabilized at around 23,000 to 25,000 tons. There are no possibilities of any intensive increase; only an extensive increase is possible by increasing the number of workers. But there is a serious labour short-

---

A typical case is that of the special drugs to combat infec-
The sulfas—after their great service as a major anti-
tion agent—were replaced successively by amorphous peni-
crystallized penicillin, crystallized penicillin G, the procaine
ula, the associate formulae and finally by other antibiotics.

Table 56. Latin America: Production, imports and apparent consumption of cement

(Thousands of metric tons)

Country	1955			1956			
	Production	*Imports*	*Apparent consumption*	*No. of plants*	*Production*	*Imports*	*Apparent consumption*
Latin America	11,865.9	1,094.2	12,951.5	88	12,836.5	626.9	13,543.6
Argentina	1,869.0	225.6	2,094.6	13	2,029.0	51.0	2,080.0
Bolivia	37.5	2.6	40.1	2	38.0	2.0	40.0
Brazil	2,720.3	239.4	2,951.1	21	3,200.0	40.0	3,240.0
Chile	804.9	—	804.9	3	770.0	—	770.0
Colombia	1,047.5	9.6	1,057.1	9	1,220.4	—	1,200.0
Costa Rica	—	58.9	58.9	—	—	62.1	62.1 [e]
Cuba	488.9	228.0	716.9	2	488.9	...	730.0 [b]
Dominican Rep.	240.2	4.0	244.2	1	240.0	2.0	242.0
Ecuador	146.2	16.0	162.2	2	150.0	10.0	160.0
El Salvador	55.2	41.1	96.3	1	71.3	20.5 [c]	91.8
Guatemala	79.8	4.8	84.6	1	78.0	13.8 [d]	91.8
Haiti	—	29.8	29.8	—	—	30.6 [a]	60.0
Honduras	—	29.8	29.8	—	—	30.6	30.6
Mexico	2,085.7	2.0	2,087.7	18	2,200.0	—	2,200.0
Nicaragua	28.7	19.6	48.3	1	41.7	2.3 [e]	44.0
Panama	110.0	9.0	119.0	1	110.0	9.0	119.0
Paraguay	11.7	4.0	15.7	1	13.6	—	13.6
Peru	566.1	30.0	596.1	2	554.7	50.0	604.7
Uruguay	291.9	116.0	407.9	3	339.0	65.0	464.0
Venezuela	1,282.3	24.0	1,306.3	7	1,350.0	10.0	1,360.0

Sources: United Nations, *Monthly Bulletin of Statistics*; *Asociación de Fabricantes de Cemento Portland*, for Argentina; *Associação Brasileira de Cimento Portland*, for Brazil; *Departamento Administrativo Nacional de Estadística*, for Colombia; direct information for Chile, Central American countries, Paraguay, Peru, Uruguay and Venezuela; *Cámara Nacional del Cemento*, Mexico; February 1957; Foreign Trade Yearbooks for imports.

[a] Preliminary estimate based on 6 months' imports.
[b] Estimate.
[c] Preliminary estimate based on 8 months' imports.
[d] Estimate based on 11 months' imports.
[e] Estimate based on 7 months' imports.

age, because the worker in the producing zone, north-east Brazil, is tending to migrate to the south where economic development is greater. On the other hand, inflation has considerably enhanced the *per capita* investment needed to make a man a skilled rubber tapper; shortage of funds is restricting the engagement of personnel. Moreover there are other enterprises in the Amazon region which are attracting former rubber labour. The solution to Brazil's rubber problem lies firstly in organized plantations and secondly in the development of the chemical industry. Progress has been made in both fields; plantations have been begun in Amapá, Bahía, Pará and São Paulo which will cover Brazilian demand for natural rubber within ten years; and the first units for producing ethene are being installed at Cubatao, so that synthetic rubber manufacture will soon commence.

10. CEMENT, GLASS AND CERAMICS

Higher levels of production were recorded in the building materials sector than in 1955. This was the result of the recovery in building activity during 1956 and of the expansion recorded in the last two years in output capacity for cement, sanitary equipment, sheet and blown glass, majolica, ceramics and similar products, which has made a greater range of import substitution possible. Among the more developed Latin American countr Chile alone showed a considerable drop in all industi supplying building materials.

Cement is the principal item within the sector. Proc tion rose by 985,000 tons or 8.4 per cent, throughout La America. The gap between factory deliveries and c sumption, which was 1.08 million tons in 1955, fel 690,000 tons in 1956, despite the 580,000 ton increas demand (see table 56). With the factories installed c ing the year—one in Argentina, two in Colombia, on Ecuador and one in Uruguay—Latin America at the of 1956 had eighty-eight factories in operation, represe ing an installed capacity of nearly 16 million tons per y

Production in Argentina rose by 8.5 per cent, not c because equipment was used more intensively, but a because of a 450,000-ton expansion in productive capac Yet *per capita* consumption fell off slightly—from 1(kg in 1955 to 107.0 kg in 1956—because of a reduct exceeding 75 per cent in the volume of imports.[35]

In Brazil production was raised to meet demand for first time in the last fifteen years, since produc capacity had always fallen behind a more rapid growt

---

[35] 218,000 tons were imported in 1955 and 51,000 tons in 1

Table 57. Latin America: Production of pig iron, steel ingot and rolled products 1955 and 1956

(Thousands of tons)

	Pig iron	*Ingot*	*Total rolled products*	*Flat products*	*Tinplate*
		1955			
Latin America	1,757.9	2,460.5	2,561.1	791.0	80.1
Argentina	40.0	217.3	658.9	142.7	—
Brazil	1,068.5	1,162.5	982.2	404.0	37.8 [a]
Chile	256.0	319.0	240.0	94.1	17.8
Colombia	99.0	77.0	35.0	—	—
Mexico	327.9	691.2	586.2	150.2	24.5
Uruguay	—	—	32.0 [b]	—	—
		1956			
Latin America	2,039.9	2,891.5	2,923.8	821.1	137.9
Argentina	40.0	192.0	654.5	140.0 [c]	—
Brazil	1,150.0	1,370.0	1,150.0	410.0	76.9 [a]
Chile	324.9	381.4	329.9	91.1	20.0
Colombia	115.7	90.4	72.4	—	—
Mexico	409.3	845.0	687.0	180.0	41.0
Uruguay	—	12.7	30.0	—	—

Sources: *Centro de Industriales Siderúrgicos* and *Centro Laminadores Industriales Metalúrgicos Argentinos* for Argentina; *Serviço de Estatistica da Producao do Conselho Nacional de Estatistica—I.B.G.E.* and *Companhia Siderurgica Nacional* for Brazil; *Acerías Paz del Río S.A.* for Colombia; *Compañia de Acero del Pacífico* for Chile; direct information from producing firms in Mexico and Uruguay.

[a] Volta Redonda only, which produces approximately 80 per cent of domestic tinplate.

[b] Round iron only, there are no mills in the country rolling plate or sections.

[c] Estimate.

and.[36] It is estimated that cement production and and will tend to level off in the five-year period -60. It is even probable that new enterprises may r into operation during the period, so that there even be some surplus of production over domestic and.

Chile, by contrast, production declined by 4 per cent lack of a market. The country's largest factory[37] had y off 250 workers during 1956.

olombian production exceeded the 1955 figure by 17.5 cent. Demand was active throughout the year and ld not have been met but for the output of two new ories. One of them, at Sogamoso, uses the slag from Paz del Rio steel mill.

Ecuador, Mexico, Peru, Paraguay and Venezuela the vious year's figures were exceeded, as well as in Uru- y, where the entry into operation of a new plant ted by ANCAP—an autonomous Government con- —led to a large increase in productive capacity.

he ceramics industry increased its output and its ductive capacity in several Latin American countries. enovation process in the factories, with some moderni- on of machinery, was also noticeable, with a particular d towards economy in labour. Increase in wages as inst proportionately lower increases in selling prices de this trend more pronounced.

11. IRON AND STEEL

In 1956, Latin America's iron and steel industry exceeded the previous year's output by 14 per cent (see table 57). Productive capacity increased at a lower rate, and the greater output was largely the result of more intensive use of existing installations.

Regional trade in iron and steel was reduced to exports from the Chilean steel mill,[38] distributed as follows: 46 per cent to Argentina, 14.7 to Colombia, 12.5 to Peru, 12.2 to Uruguay and 14.6 to Bolivia, Brazil, Ecuador, Cuba and Panama.

Expansion plans went ahead during the year in Argentina, Brazil, Chile and Mexico, while Peru and Venezuela proceeded with their installation programmes. Should the various projects mature within the prescribed time-limits, Latin America's present output of steel ingot will be almost doubled by 1960. Nevertheless, it will only raise its share in the world total from 0.9 to 1.35 per cent (see table 58). This small increase shows the extraordinary development taking place in world steel manufacture, particularly in the highly industrialized centres where production is expanding on a par with the marked increase in productivity.[39] Despite the efforts made by

---

Per capita consumption rose from 18.4 kilogrammes in 1941 2.7 kilogrammes in 1956.

It contributed 65 per cent of the national output.

[38] The *Compañía de Acero del Pacífico* exported a total of 103,675 tons of steel products in 1956, of which 42,136 tons were bought by Latin American countries. Buyers from other regions included Japan (20,258 tons), Canada (14,811), the United States (14,769) and the United Kingdom (2,157).

[39] In the United States, productivity in the steel industry grew at the rate of 2.8 per cent between 1947 and 1955. That is, if 100 man-hours were needed in 1947 to produce 100 units, only 78 would be needed in 1955.

Table 58. Steel ingot capacity in Latin America and in other areas

(Thousands of tons)

	1956	*1960*
Latin America	2,891	5,430
United States	126,334	140,740
Canada	5,438	5,905
Western Europe	93,833	116,883
USSR, Mainland China and centrally planned economies of Eastern Europe	75,040	105,594
Other areas	17,632	25,663
WORLD TOTAL	321,946	401,802

Sources: ECLA for Latin America, and the United States Department of Commerce for other regions.

the producing countries in the region, the Latin American steel industry lost ground between 1954 and 1955 compared with the expansion in other areas, and its largest producer—Brazil—dropped from fourteenth to twenty-first place in world order.

In Argentina steel production remained at the 1955 levels. The industry continued to rely on a considerable supply of imported raw materials, which enabled it to operate at a very satisfactory level of efficiency. Rolling mills[40] consumed the equivalent of 900,000 tons of ingot, of which 190,000 were made in the country. The two blast furnaces at Zapla maintained their output of 40,000 tons of pig iron, 35 per cent of which went to the steel mill, the rest being used for foundry iron. Work at San Nicolas forged ahead during 1956, following the grant, at the beginning of the year, of a 60 million dollar loan extended by the Export-Import Bank.

The Brazilian steel industry exceeded the 1955 production levels by 14 per cent. Even so, nearly 500,000 tons of steel had to be imported to meet the demand of the vigorous transforming industry. The 1955 figures were exceeded for all items, but particularly for tinplate, the production of which doubled in 1956.[41] Expansion plans continued apace and are expected to result in an increased output of 440,000 tons within the next three years.

Output of rolled products at the integrated Paz del Rio plant in Colombia increased by 55,000 tons, raising the utilization coefficient from 33 to 86 per cent. The difficulties of the early months have been overcome, and everything seems to indicate that, in 1957, the Belencito mill will be operating at levels approaching its productive capacity. In view of the rate of growth of demand,[42] expansion plans have been accelerated; for this purpose, as well as to consolidate the company's economic position, its capital was raised to 500 million pesos. One high priority expansion project is to instal a sintering plant to utilize the fine-mesh iron ore which is being wasted at pre and which represents about 35 per cent of the ore mi

The Chilean steel industry exceeded its previous vol of output by 20 per cent, which is the maximum that be expected from the existing installations. Despite contraction in domestic demand,[43] the *Compañía de A* *del Pacífico* closed the year with normal stocks, becaus sold nearly 32 per cent of its output abroad. An haustive analysis of requirements for steel products on Chilean market[44] revealed that by about 1959 the coun will be needing 345,000 tons of rolled products a year; will require a steel ingot production equivalent to 430, tons. Since the present installations have shown a duction capacity of 375,000 tons of ingot and 227,000 t of rolled products, the Company has begun a two-st expansion programme. The first stage was begun earl 1956 and should be completed by the end of 1957 consists of the installation of a semi-continuous hot s mill; although this will not result in any great increas productive capacity, it will mean a substantial impro ment in the quality of Huachipato's flat products. second stage which should start early in 1957 and be c pleted at the end of 1958 includes the installation Siemens-Martin furnace to raise steel ingot production the necessary figure of 430,000 tons, and the assembl additional rolling units to produce the types and amou of finished steel products that the country needs. execution of both stages will represent an investmen 27 million dollars, 55 per cent of which is to be covered capital increase[45] and 45 per cent by the company's o resources and by foreign loans.

In Mexico the steel industry continued to expa During the year the fifth blast furnace was installed Piedras Negras, State of Coahuila. It has a capacity 70,000 tons of pig iron and had thus raised dome productive capacity to 805,000 tons. Steel-mak capacity in turn rose to 1,198,300 tons when the n 100,000 ton electric furnace started operation in M terrey. Rolling mill output rose by 17 per cent, and some 100,000 tons higher than in 1955. Added to expanded volume of imports, this production incre gave an apparent consumption of approximately 960, tons of steel products in 1956, i.e., 19 per cent more t in the previous year.

Parallel to this expansion in productive capacity, th was also in 1956 an increase in the utilization coefficie which had been at a relatively low average for the ind try. This was largely due to the fact that investme were not co-ordinated, so that there were increases productive capacity which did not always correspond the demand for certain specific types of products.

Mexico's steel industry depends on heavy scrap impo because of the large number of electric furnaces in ry.[46] This is still a problem, not only because of shortages but because of the high price of scrap ularly on the United States market which is the try's source of supply.[47]

---

[40] There are forty-nine rolling mills in Argentina, nine of which have their own steel mills with a total of twenty-four Siemens-Martin furnaces of 126-ton capacity; these provide the bulk of production.

[41] Latin American production of tinplate rose by 70 per cent due to expansions in Brazil and Mexico. Both countries introduced, for the first time in the region, installations to apply tin by electroplating, which saves considerable quantities of tin.

[42] The average annual rate of growth of demand during the next ten years is estimated to be not less than 5 per cent.

[43] The considerable reduction in building activity was one of main reasons why domestic sales fell off. This industry, direc and through the metallurgical industry, accounts for 70 per c of Chile's domestic consumption.

[44] Carried out during the first half of 1956 by the *Compañía* *Acero del Pacífico* in collaboration with a group of United Sta experts specializing in market studies.

[45] The increase will be from 15 to 30 million dollars. It agreed upon in November 1955 and should be totally subscri by the end of 1958.

e year 1956 was an important one for the nascent ian steel industry. The second half witnessed the into operation of the two rolling mills—one primary ne finishing mill—at the integrated Chimbote plant. lant used blooms of imported material which will be ced by domestically produced ingots when the Santa -electric plant starts up and, with it, the two electric ces, the assembly of which has progressed consider-

re were no changes in Uruguay. Production of l iron, made from domestic and imported rod, re- d at 1955 levels. Nevertheless, the capacity of the stic rolling mills for this product is estimated at than twice the 30,000 tons produced in 1956.

Venezuela—where about 600,000 tons of steel were in 1956, including tubes, bars, rails, wire and sheets construction of the Puerto Ordaz steel mill con- d rapidly. It will have an annual production capac- 421,500 tons of finished products. The total invest- is estimated at 173 million dollars and the mill is ted to start operating in 1959.

ne steel producing countries also expanded the range ir production, but not at the rate required by their ctive transforming industries. The multiplicity of ties and the relatively small domestic markets are s limiting factors which tend—except in some ic cases—to make production of non-current steels nomic.

zil and Argentina have made the greatest progress in onnexion, particularly the first, which is the largest American producer of non-current steels; it was he first country to begin their manufacture after the d World War. The volume of production in 1956 is ated at 11,700 tons of special steels and 59,700 tons ality steels.[48] With this output domestic industry ble to meet 26 per cent of the demand for the former 0 per cent of that for the latter. If current or pro- d expansion plans have been completed, by 1960 the ntages indicated above will be raised to 59 and 87 ctively.

gentine production of non-current steels amounted ,000 tons in 1956, including special steels and high- n steels for specific uses. In Mexico, the figure is set ,000 tons, of which 4,000 tons are high-alloy steels.

Table 59. Latin America: Average annual consumption of metallic aluminium during the period 1953-55

Country	*Tons*	*Country*	*Tons*
Latin America	45,250	El Salvador	65
Argentina	10,400	Guatemala	340
Bolivia	120	Haiti	60
Brazil	13,300	Honduras	40
Chile	660	Mexico	6,400
Colombia	2,880	Nicaragua	140
Costa Rica	270	Panama	460
Cuba	2,170	Paraguay	60
Dominican Republic	290	Peru	740
Ecuador	160	Uruguay	1,010
		Venezuela	5,840

Sources: United Nations, *Commodity Trade Statistics* (Statistical Papers, Series D, vol. III, No. 4), June 1954, and special calculations made by the Statistical Office of the United Nations for its own use. Direct information for Brazil.

12. ALUMINIUM

The only producer of aluminium in Latin America is Brazil, which has two plants with a joint annual capacity of 12,000 tons. Production in 1956 was some 8,000 tons, based on domestic bauxite and imported creolite.[49] Since output capacity falls far short of effective demand, expansion plans are being carried out which provide for an output of 34,000 tons in 1960.

In Argentina, plants for rolling imported aluminium slab produced during the year 7,000 tons of sheet and 1,200 tons of aluminium foil.

All the Latin American countries have more or less complex industries for transforming metallic aluminium. Regional demand during 1953-55 averaged 47,500 tons a year, as can be seen from table 59. Potential Latin American consumption is greater because demand in most countries has been limited by import difficulties and, in the case of Brazil, by insufficient local production. Moreover, in the region's more industrially advanced countries, there is a marked tendency for a large part of consumption—at present centred around the production of domestic utensils—to be directed towards other activities of greater economic importance; these include civil engineering, the manufacture of motor vehicle parts, the production of electric high-tension cables, etc. This will be followed shortly by an accelerated growth in demand. But outside of Brazil there are no specific plans for producing metallic aluminium.[50]

13. IRON AND OTHER METAL TRANSFORMING INDUSTRIES

In 1956 the broad and heterogeneous sector of the metal transforming industries operated at different levels of activity according to the country and product concerned.

---

n 1950 there were twelve electric furnaces with an annual ction capacity of 140,200 tons. In 1956 the number had to thirty-one and the capacity to 530,800 tons.

rgentina and Mexico are the two Latin American countries have a large steel industry based to a high degree on im- d raw materials. Whereas Argentina purchases particularly quantities of ingot and semi-finished products, Mexico is a scrap importer.

easured as a fraction of total steel ingot production the e of special steel production in Brazil was, in 1956, 1 per cent pecial and 5.5 per cent for quality steels. In the highly trialized countries the respective percentages are 8-9 for ormer and 15-16 for the latter.

[49] From Denmark, which has 90 per cent of world reserves of this product in Greenland.

[50] To utilize the power generated by some large hydroelectric projects either planned or being built in certain Latin American countries, several international aluminium producers have offered to instal smelters using imported bauxite. But none of these offers has been followed up.

But as a whole, it showed one of the sharpest increases in Latin America's industrial development during the period under review.

The greatest activity took place, as in earlier years, in Brazil where industry operated at full capacity, although some difficulties were encountered. One of these was the supply of foreign raw material, particularly during the first six months, when foreign exchange was quoted at very high rates; the other was the shortage of skilled labour, particularly in the manufacture of machinery and equipment.

There was also greater output in Argentina, despite the 35-day strike which affected many industries in the sector. There was considerable development in Colombia. Nevertheless, transport difficulties continued to limit to some extent the size and the output of plants. Production declined in Chile because of the general contraction in demand, particularly in the building industry. In Peru and Uruguay the previous year's levels were maintained. In Venezuela the industry was more active particularly in the interior, since in Caracas the unfavourable effects of foreign competition were felt most in such lines as tanks and structural steel, in which the country has surplus capacity.

The industry making primary commodities—wire and wire products, tubes and pipes, bolts and similar items, containers and wrappings, metal structures, etc.—operated in general at satisfactory levels of activity. Since these are heavy articles which undergo little transformation and in respect of which freight costs are relatively high in relation to value added in manufacture, the trend is towards virtually complete import substitution.

Within this group, the most important achievement is the manufacture of seamless steel tubes, which is proceeding on a large scale in Argentina, Brazil and Mexico, and in smaller amounts and sizes in Uruguay. Production data for last year are given in table 60. In Venezuela a plant is being installed as part of the Puerto Ordaz steel mill, and it will manufacture the main finished article produced by this integrated plant.

The manufacture of household appliances—refrigerators, washing machines, etc.—and of machinery were the two most dynamic activities in the sector. Expansion of productive capacity and advances in manufacturing technique in Argentina, Brazil and Mexico facilitated import substitution of many items which had formerly been purchased from highly industrialized countries.

Very strong incentives were provided for machine-tool manufactures, particularly in the first two countries; lathe production is estimated at 3,300 units in Argentina and 3,800 in Brazil, including both centre and turret lathes.[51]

The heavy mechanical industry, that is to say the manufacture of industrial equipment, is in its infancy in Latin America. The fundamental condition for its

Table 60. Latin America: Production and pro
tive capacity of seamless steel tubes

(Tons)

	No. of factories	Productive capacity	Produ
Argentina	1	80,000	32,
Brazil	2	54,000	38,
Mexico	1	60,000	52,
Uruguay	1	6,000	2,

Source: ECLA, based on direct information from the prod

[a] Includes welded tubes and fittings.

growth is a broad market, consolidated by a large
lively manufacturing industry. That is why little has
done up to the present except in the more advanced L
American countries. It also explains why project
installing more complex industries encounter difficu
since they cannot be set up economically on the bas
domestic markets.

There were two important events in Latin Amer
heavy mechanical industry during 1956, in which fo
capital and skill played a part. The first was the org
zation of a Brazilian company in collaboration with a
known French metallurgical group to make heavy in
trial equipment; this will be the first complete enter
of its kind in Brazil.[52] The other was the entry into op
tion in the industrial city of Irolo, Mexico, of a te
machinery factory. This factory, built with the techn
and economic assistance of an important Japanese gr
will produce in its initial stages 120,000 spindles
3,600 looms each year; this will help to speed up the
cess of modernizing the machinery of Mexico's large
tile industry.

Considerable progress was made in 1956 in regar
motor vehicles. In Argentina and particularly in B
the manufacture of these vehicles advanced steadily.
Argentina greater stress was laid on tractor manufact
Towards the end of the year, the domestic industry
delivered 5,900 units, 55 per cent of the value of w
was produced locally.[53] The work of installing the
factory at Cordoba also advanced; 70 per cent of the bu
ing was completed and 40 per cent of the presses
assembled.

In Brazil, the motor vehicle industry received a deci
impetus in 1956. The Government felt that it
necessary to take part in the planning of this indus
In June legislation was enacted creating a Governm
agency (the GEIA) subsidiary to the *Conselho do Desen*
vimento (Development Council) in which full execu
powers concerning the regulation, policy and control o
activities pertaining to road vehicle manufacture
vested. This industry is the exclusive preserve of pri
enterprise, the Government restricting its interventio
general policy and co-ordination, to encouraging diffe

---

[51] Argentina lists some 250 establishments making machine-tools. The greatest volume of production is turned out in medium capacity establishments with from fifteen to seventy workers; only fifteen firms are estimated as being larger. Hence there is little centralization either in the production phase or the range of products. On the other hand in Brazil there is greater centralization and sizes range from seventy to 900 workers.

[52] Studies made by the *Commissão da Indústria Pesada* ind
that this firm will, by 1960, be producing nearly 10 per cent o
value of the country's heavy equipment requirements for indu
and construction work.

[53] It is estimated that this percentage may rise to 70 in
Argentina's agriculture urgently requires some 50,000 trac
This number can be produced in five years by domestic indu

utually compatible enterprises, to ensuring a tech-
nd economic basis and to conciliating the exchange
ements of the different enterprises with the coun-
ossibilities. Government action takes the indirect
of preferential exchange treatment for imports of
ment and component parts. The granting of ex-
e benefits is conditional on the prior approval of the
cal and economic plans of the firms concerned and
e subordination of these projects to a Government
mme of progressive and rather rapid import sub-
ion of spare-parts and accessories. The distinction
between foreign and Brazilian enterprises appears to
t the former are encouraged to engage in assemb-
hile the latter have to concentrate on the manufac-
f spare-parts and accessories. The reasons for this
on seem to be that the large foreign enterprises have
experience in mass-production assembly, as well as
ct that there is already a large Brazilian accessories
ry.[54] The objective is that all new lorries[55] operat-
Brazil in 1960 will be 90 per cent Brazilian by weight
5 per cent by value. Since June 1956, the manu-
ers have been extremely active; investments are
ted as having reached 53.4 million dollars, and it is
ated that they will reach 200 million by the end of

14. BUILDING

in America's building industry recovered in 1956,
ithout reaching the levels of the period 1950-53.
955 level was exceeded in Brazil, Colombia, Cuba,
lor and Mexico and several Central American coun-
the extraordinary development in Venezuela continued; there were no great changes in Uruguay; but the industry declined in Argentina, Peru and, in particular, Chile.

The public sector was the more active in Brazil and Venezuela, while private capital had the greater share in Colombia, Ecuador, Mexico, Peru and Uruguay.

In Argentina public works, although on a much smaller scale than in 1950,[56] showed a slight increase over 1955; there was also rather livelier activity in the private sector. In Brazil the building increase was due to the installation of new industries and Government action in connexion with road building, but there seems to have been a decline in the construction of private houses. In Chile the building industry dropped to the lowest level of the period 1945-56. The public sector—which had in recent years accounted for over 75 per cent of the country's building activity—showed little movement; the private sector too reduced its rate of activity because of credit difficulties which lasted throughout the year. In Peru this sector had been very active in earlier years but a falling-off began to be noticeable in 1956. In view of the fiscal disequilibrium which became apparent towards the middle of the year, the Government decided to restrict the public works programme to prevent inflationary pressures. In Venezuela building continued unabated despite the fact that the indices—measured by the building permits issued—now show a halt in the rate which was not apparent during 1956. In fact, the public sector operated at even greater intensity than during 1955. Almost all building in the country is financed with domestic resources; the strong pressure which it exerts on the banks means that credit for other activities is in short supply. This partly explains the credit difficulties encountered by industry and commerce in Venezuela.

---

ver 600 enterprises throughout Brazil.
he policy adopted in Brazil is to concentrate at the initial
of the motor vehicle industry on commercial vehicles,
ularly on medium and heavy lorries. The manufacture of
ger cars appears to demand special precautions, since this
of the industry requires substantially broader markets to
economic production and makes greater demands on the
ary mechanical industry.

[56] Public works reached their peak in Argentina in 1950. Cement consumption for official buildings at that time amounted to 593,000 tons. In 1956 the corresponding figure was only 370,000 tons.

Chapter III

MINING

I. POST-WAR DEVELOPMENT OF MINING IN LATIN AMERICA

The extraordinary post-war growth in the industrial production of the highly developed countries has been accompanied by far-reaching technological changes. This has resulted in an intense demand for minerals, not only those which have been traditionally produced in Latin America but also light metals, minerals for the chemical industry, metals for steel alloys and those used in the atomic industries.[1]

Yet, Latin American mining has shown little response to this incentive. In its traditional branches—copper, lead, zinc and tin—increases have been relatively small and there have been virtually no increases at all in the mining of other minerals for which there is a strong demand. Statistics show that the growth in the value of production over the past 12 years has been due more to a rise in international prices than to any increase in the volume of production. This slow development of Latin America's mining is in contrast to the dynamism shown by this activity in other regions, and hence explains why Latin America's share of the world total has been declining since the mid-forties.

Viewing the post-war period as a whole, if the Latin American mining industry had maintained the same share of world production as it had had in 1945, and assuming that there had been no change in the rate of increase in the value of world production during that period,[2] the estimated value of Latin American mineral production would have been about 3,000 million dollars greater at 1953 prices. Such was the rate of expansion in other areas. The loss is distributed as follows: copper, 1,250 million; lead and zinc, 450 million; precious metals, 300 million; tin 760 million; alloying metals, 170 million; miscellaneous metals—including light metals—30 million; and 130 million in the broad and heterogenous group of non-metallic minerals. Iron and petroleum were exceptions, since they increased more rapidly than in the rest of the world.

Table 61 shows the average annual rate of increase in production for Latin America and the rest of the world for some minerals during the period 1945-55. It will be seen that the rate of increase of Latin American product only succeeded in overtaking that of the rest of the w in the case of iron ore and crude petroleum; in the la case, this was due to the remarkable development Venezuela's production.

Table 61. Average annual rates of growth production, 1945-55

(In terms of 1953 prices)

	World production (excluding Latin America) [a]	*Latin Ameri production*
Copper	6.3	−0.5
Lead and zinc	11.2	5.1
Tin	10.7	−3.1
Precious metals [b]	3.6	−0.8
Alloying metals [c]	10.6	5.6
Light metals [d]	13.3	9.7
Miscellaneous metals [e] (excluding tin)	5.8	1.9
Chemical minerals [f]	8.8	1.1
Miscellaneous non-metallic minerals [g])	5.2	−0.7
Crude petroleum	7.9	8.6
Iron ore	8.1	24.1

[a] Production data for some minerals exclude countries centrally planned economies (e.g. mainland China, USSR Eastern Europe).

[b] Gold, silver and platinum.

[c] Manganese, chromium, nickel, tungsten, molybdenum, co vanadium, columbium and tantalum.

[d] Aluminium, magnesium and titanium.

[e] Antimony, mercury, cadmium, beryllium, zirconium bismuth.

[f] Salt, phosphate rock, potash, sulphur, pyrites, borates, fl spar, sodium nitrate and guano.

[g] Asbestos, mica, graphite, quartz, talc, barite, diamonds, ka feldspar, magnesite and natural abrasives.

1. Structure of the Latin American mining indus

In reviewing the salient structural characteristics of Latin American mining economy, it should be borne mind that the flow of investment into this sector has b largely conditioned by the raw material requirement the world's highly industrialized centres. At the sa time, due to the intensive development of mineral sources in the United States, Latin American product has tended to be concentrated in a relatively few co plementary fields: copper, lead, zinc and tin. Since 19 these four products have accounted for between 50 and per cent of the value of total production in Latin Ameri excluding fuels. Estimates of the gross value of La American mine and smelter output, at current in

---

[1] The world consumption pattern can best be illustrated by the percentage annual increase in the production of some minerals during the period following the Second World War. These were: aluminium, 12.9; magnesium, 9.5; titanium, 161.4; barite, 6.2; potash, 14.5; sulphur, 5.4; beryllium, 21.5; chromite, 14.1; cobalt (ores), 11.5; columbium and tantalum (ores), 10.4; nickel (ores), 5.7; zirconium (ores), 12.7. These rates should be contrasted with the annual increase in world production of copper (4.7 per cent) and lead and zinc (5.1 per cent).

[2] I.e., with the variations in quantities and in prices registered for 1945-55.

62. Latin America: Production of minerals and metals, by commodity groups, 1945, 1950 and 1955

(Thousands of dollars)

ommodity group	1945	1950	1955
l fuels	548,722	1,789,830	2,780,816
	150,671	217,509	450,505
nd zinc	61,759	155,037	187,335
s metals	40,250	85,743	308,058
aneous metals	66,933	67,145	71,533
us metals	116,207	122,720	132,915
metals	387	90	1,163
cal minerals	44,456	86,651	110,125
aneous non-metallics	20,787	16,419	30,295
TOTAL	1,050,172	2,541,144	4,072,745

ce: ECLA, based on the production statistics published by ited States Bureau of Mines and import statistics published United States Department of Commerce. (See Bureau of nsus, *United States Imports of Merchandise for Consumption,* No. FTIO.)

hal prices, by commodity groups and by countries, ven in tables 62 and 63.[3]

dominant influence of one or two commodities in ructure of each country's mining industries is per- the most outstanding characteristic of Latin Ameri- roduction. For example, tin accounts for more than f the value of Bolivia's mine and smelter production; rrous metals dominate the mining industries of and Cuba; copper, those of Chile; lead and zinc, of Mexico and Peru (excluding fuels); and precious s, those of a number of the smaller countries. A ntage distribution, by countries and commodity s, in terms of constant 1953 prices, is shown in table For purposes of comparison, the structure of United mining production in 1950 has also been included.

neral fuels predominate in Argentina, Colombia, dor and Venezuela. In none of the other countries h the exception of Peru—do mineral fuels repre- significant portion of the total value of production. arge contribution made by Venezuelan petroleum s the output of mineral fuels—coal, natural gas and leum—relatively greater than in the United States, petroleum currently accounts for 62 per cent of the value of mineral fuels produced (97 per cent in Latin ica).

other striking fact is the relative unimportance of ferrous metals. In 1950, only in Bolivia, Brazil,[4] Chile and Cuba did the ratio of ferrous metals to total production exceed 5 per cent. The light metals (aluminium, magnesium, titanium) are of negligible importance in Latin America, both in the mining and smelting branches, despite the great world demand for them, particularly for ilmenite, rutile and bauxite.[5]

Table 63. Latin America: Production of minerals and metals,[a] by countries, 1945, 1950 and 1955

(Thousands of dollars)

Country	1945	1950	1955
Argentina	39,180	74,013	113,709
Bolivia	69,556	80,143	98,061
Brazil	47,868	78,947	133,112
Chile	174,134	280,217	490,240
Colombia	50,415	107,772	155,122
Costa Rica	127	37	35
Cuba	14,548	12,741	31,414
Dominican Republic	74	81	223
Ecuador	6,789	10,838	11,212
El Salvador	751	1,592	561
Guatemala	89	1,102	3,358
Haiti	25	101	138
Honduras	2,167	3,983	2,207
Mexico	185,493	397,584	546,306
Nicaragua	7,367	8,237	8,237
Panama	8	61	42
Paraguay	—	—	5
Peru	52,951	104,589	179,171
Uruguay	29	17	44
Venezuela	398,601	1,379,089	2,287,975
TOTAL	1,050,172	2,541,144	4,072,745

Source: See table 62.
[a] Excluding building materials.

Production of antimony, mercury, cadmium, bismuth, and beryllium is small. Only Mexico recorded any significant increase in this group of metals in recent years; domestic supplies of antimony, mercury and bismuth are making important contributions to that country's industrial development. Elsewhere, these metals as a whole have been losing ground despite increasingly favourable prices.

Finally, it should be noted that in many countries—and most spectacularly in Brazil, Colombia, Mexico and Peru—the precious metals have been declining in relation to other minerals. There have been no significant production increases since the war, but—particularly in the case of gold and silver—they still continue to account for a large fraction of the region's mining economy.

2. TRENDS IN THE POST-WAR PERIOD

The changes in the gross domestic product, the volume of production and price indices in the mining sector during

---

hese tables exclude certain non-metallic minerals such as us and semi-precious stones (with the exception of diamonds) onstruction materials (building stone, sand and gravel, m, slate, clay, limestone, etc.) for which comparable statis- e not available for all countries. Primary metals and smelter cts are included, with the exception of steel. Adjustments ade for the metal content of imported ores smelted, as well the recoverable content of ores and concentrates not smelted the producing country. Unit values are those of imports he United States, which are quoted f.o.b. the exporting y. In one or two cases (e.g. natural gas) where this method uation is not feasible, unit prices are the average United prices at the mine or well-head.

[4] In Brazil, the relative importance of ferrous metals was greater than in the United States. However, the aggregate value of Brazilian output of ferrous metals was only 1.6 per cent of United States production.

[5] These metals represented 2.3 per cent of mining output in the United States in 1950, that is, almost as much as copper.

Table 64. Latin America: Value of production by commodity groups, as a percentage of total value of minerals and metals produced, 1945, 1950 and 1955[a]

Country	Mineral fuels			Ferrous metals			Copper			Lead and zinc			Precious metals			Miscellaneous metals			Chemical minerals		
	1945	1950	1955	1945	1950	1955	1945	1950	1955	1945	1950	1955	1945	1950	1955	1945	1950	1955	1945	1950	1955
Argentina	76	83	79	6	2	5	—	—	—	9	10	10	3	2	2	3	1	0	3	2	3
Bolivia	8	2	6	10	8	17	3	3	2	4	10	8	5	6	9	77	72	59	0	0	0
Brazil	18	13	15	40	60	66	—	—	—	0	1	1	12	8	3	1	2	1	3	4	2
Chile	3	4	5	1	8	7	77	65	67	—	0	0	2	2	1	0	0	0	17	21	19
Colombia	76	86	77	—	—	11	—	—	—	—	—	—	24	14	10	—	—	—	0	0	1
Costa Rica	—	—	—	—	—	—	—	—	—	—	—	—	81	10	—	—	—	—	19	90	50
Cuba	2	2	3	71	24	54	25	70	40	—	0	—	0	2	1	—	—	—	1	1	2
Dominic. Rep.	—	—	—	—	—	—	—	—	—	—	—	—	18	20	—	—	—	—	82	80	100
Ecuador	61	65	92	—	—	—	16	3	—	0	0	—	21	31	5	—	—	—	1	1	2
El Salvador	—	—	—	—	—	—	—	—	—	—	8	—	91	88	63	—	—	—	9	4	37
Guatemala	—	—	—	7	1	0	—	—	—	66	69	81	1	26	18	—	—	—	26	4	1
Honduras	—	—	—	—	—	—	—	—	—	0	2	19	100	98	80	0	0	—	0	0	1
Mexico	35	48	51	4	3	4	11	9	7	26	24	20	20	13	11	2	1	3	1	1	4
Nicaragua	—	—	—	—	—	—	—	—	—	—	—	—	100	99	99	—	—	—	0	1	1
Peru	36	36	29	3	2	9	19	16	17	21	24	31	16	17	9	2	2	1	2	4	4
Venezuela	100	100	97	—	0	3	—	—	—	—	—	—	0	0	0	—	—	—	0	0	0
Total	56	68	71	4	4	7	17	11	9	6	5	5	7	5	3	5	3	2	4	3	3
Total excl. fuels				8	13	23	40	34	31	13	17	16	16	15	11	12	10	7	8	10	10
United States		64			25			3			2			1			0			2	

Source: See table 62.

Note: The light metals are excluded, as well as some non-metallic minerals, which explains why the horizontal figures do not add up to 100 per cent. Moreover, the mining production of Haiti, Panamá, Paraguay and Uruguay has not been taken into account because it is slight and is centred on one or two unimportant groups. 0 represents percentages below 0.5.

[a] At 1953 prices.

65. Latin America: Average annual growth ross domestic product, value of minerals and als produced (at constant prices) and of price xes of minerals and metals by countries, 5-1955

Country	Percentage increases Gross domestic product	 Mine and smelter production	 Price index of minerals and metals
na	3.5	3.3	7.2
	..	−0.9	7.6
	5.5	5.5	6.3
	2.7	0.0	9.1
ia	5.1	6.4	5.3
	4.0	3.9	5.9
r	7.1	−1.3	5.1
ala	4.8	29.8 [a]	4.1
as	4.1	4.3	4.0
	6.0	4.1	6.7
	6.0	6.7	8.0
ela	7.4	8.8	6.9
ncluding fuels	5.0	5.9	6.8
xcluding fuels		2.3	7.3

e: See table 62.

Gross domestic product in 1950 US dollars was based on estimates. Value of minerals and metals estimated directly US dollars and adjusted by regression equations. Costa ominican Republic, El Salvador, Haiti, Nicaragua, Panama ay and Uruguay are excluded.

7-1955.

Table 66. Latin America: Average annual growth of volume of minerals and metals produced, and of price indices of minerals and metals, by commodity groups, 1945-1955

(Percentages)

	Percentage increases Mine and smelter production	 Price index	 Estimated price elasticity of supply [a]
Mineral fuels	7.9	6.8	1.2
Iron [b]	18.1	7.5	2.3
Alloying metals [c]	5.6	9.0	0.6
Copper	−0.5	9.2	−0.1
Lead and zinc	5.1	9.0	0.6
Precious metals	−0.8	1.8	−0.5
Miscellaneous metals	−2.3	5.6	−0.4
Chemical minerals	1.1	7.5	0.2
Miscellaneous non-metallics	−0.7	2.7	−0.2
Total production	5.9	6.8	0.9
Total excluding fuels	2.3	7.3	0.3

Source: See table 62.

[a] Using Boulding's arc-elasticity formula:

$$e = \frac{Q-Q^1}{Q+Q^1} + \frac{P-P^1}{P+P^1}.$$

(See Kenneth E. Boulding, *Economic Analysis*, New York, Harper and Brothers, 1958, pp. 140-141.)

[b] Including pig iron.

[c] Ores and concentrates.

riod 1945-55, are indicated in table 65 for each y of Latin America.

significant discrepancies between the growth rates s domestic product and of the volume of minerals etals produced are indicative of the changes in the e importance of the mining sector in each country's ny. In Latin America as a whole, the income d from mining, including fuels, showed an annual growth exceeding by nearly 1 per cent that of all sectors of economic activity together.[6] But, if l fuels are excluded, the value of mining producows an annual increase of only 2.3 per cent, which tically half that of Latin America's gross domestic t.

comparing the rate of improvement in the price with the rate of expansion in output, a rough re of the degree to which market possibilities were ted can be obtained (see table 66). A high rate of in prices indicates that the market has been exg rapidly since 1945; the quantum rate of expanproduction shows the degree to which these opporsw were exploited. These comparisons can only be ximate, since the effect of the long-term changes on arginal costs of production cannot be taken into nt.

es rose most rapidly for copper, alloying metals, nd zinc, chemical minerals and iron. Nevertheless, production declined in the post-war decade, and owth recorded for chemical minerals, lead and zinc elow the average for all mining products. Iron—including pig iron—ores and concentrates of ferro-alloy metals and mineral fuels showed substantial increases.

The price-elasticity of supply for Latin American production of minerals and metals during the period 1945-55 was 0.9, but excluding mineral fuels it was only 0.3, revealing that production responded very moderately to price increases. Moreover, even in the case of fuels, the increased output was not so much due to the increase in world prices as to conditions in Venezuela which favoured intensive exploitation during the period under review.

It is clear that, despite its mineral wealth, Latin America reacted weakly to the opportunities presented by international markets. Production of a number of items either increased slowly or declined. This failure to take advantage of market opportunities largely explains the stagnation of many branches of the mining industries in the region.

II. INDIVIDUAL COMMODITY GROUPS

1. Mineral fuels

This group of commodities, consisting of crude petroleum, natural gas and bituminous and anthracite coal, constitutes the greater part of Latin America's output of non-agricultural raw materials. Mineral fuels comprise more than 80 per cent of the value of minerals and metals output in Argentina, Colombia, Ecuador and Venezuela, and roughly 50 per cent in Mexico and 30 per cent in Peru.

Latin American production of mineral fuels represents approximately 10 per cent of the world total, Venezuela

---

constant prices.

accounting for nearly four-fifths of Latin American output. Venezuela's share in the total has been increasing steadily during the post-war period, its output having grown at the rate of 8.4 per cent per year (as compared with 6.1 per cent in the other countries combined).[7]

Within Latin America, the lowest growth rates were those of Argentina and Peru (3.9 and 3.7 per cent per year respectively). Greater increases were registered in Colombia (7.2 per cent) and Mexico (7 per cent). The production of Bolivia, Brazil, Chile and Ecuador has been insignificant so far in the Latin American total. None of the other countries produced mineral fuels in 1956.

The data shown in table 66 illustrate the extremely rapid and steady development of mineral fuels output in Latin America. The economic advantages of petroleum production in Latin America ensured a steady flow of capital into the major fields open to investment.

In the United States, natural gas and coal account for more than half of the consumption of mineral fuels, while, in some of the industrialized countries of Western Europe, the share of coal is much higher.[8] This is due to the extensive use of these fuels as a source of heat in metallurgical processes, in the production of building materials (glass, brick, etc.) and as an inexpensive source of electric power. By contrast, in Latin America petroleum represents over 97 per cent of the total; it is interesting to note that, in spite of this high percentage, it continues to replace coal as a source of heat and of electric energy. Production of coal has increased only by 2.8 per cent per year in Latin America during the post-war period. There was no great increase in consumption either, since imports declined proportionately. In terms of the total value of production of mineral fuels, coal declined from 2.7 per cent in 1945 to approximately 1.6 per cent in 1955. Because of the relatively high cost per therm of Latin American coal, the decline in terms of heat value was much higher than this.

Natural gas rose moderately from 0.8 per cent to slightly more than 1 per cent of the total value of production, although probably less than one quarter of this was consumed as fuel by industrial or domestic users.[9] Almost all the remainder was utilized by the petroleum companies which reinjected it into the wells to ensure a higher output of crude.[10]

2. Iron

Production of iron-ore is limited to Argentina, Brazil, Chile, Colombia, Cuba, Mexico, Peru and Venezuela. Of these countries, only Cuba has not yet developed its own metallurgical industry based on iron-ore.[11] Only in Brazil, Chile, Colombia and Peru does the value of i
ore and pig-iron exceed 5 per cent of the total valu
minerals and metals produced.

Iron-ore and pig-iron registered by far the highest
of growth (18.1 per cent per year) of any commo
group during the last 12 years. This rate of increa
more than twice as high as that of mineral fuels
nearly eight times as high as the total productio
minerals and metals, excluding mineral fuels.

Obviously world prices of iron-ore contributed sig
cantly to the increase in the production of this grou
commodities in Latin America. Output tended to g
relatively slowly from 1945 to 1948 but acceler
rapidly after 1949, during which year a firm upward tr
in price became apparent. Iron-ore mining on an in
trial scale was begun in 1951 in Venezuela, in 195
Peru and in 1955 in Colombia.

There was a rather wide discrepancy between the
of growth of iron-ore production (24.2 per cent per y
and that of pig-iron (17.1). It is thus apparent that
production of iron-ore for export became increasi
more important than production for domestic consu
tion. For Latin America as a whole, iron-ore in 1955
resented about 55 per cent of the total value of iron
put, although the unit value of pig-iron was more t
five and one-half times as high.

The existence of a domestic iron-mining industry
constituted one of the essential bases for the developm
of a domestic iron and steel industry in some countr
such as Brazil and Chile and, more recently, Peru
Venezuela. In Argentina consumption has been outst
ping domestic production. The traditional sources
supply in the province of Jujuy offer sufficient resou
for the expansion of steelmaking in the northern zone,
if the large coastal plants are used, it is probable that
Sierra Grande deposits in Rio Negro province will
worked. As this ore has an average phosphorus cont
of 1.5 per cent, it will have to be mixed with higher gr
imported ores to reduce the phosphorus.

In Mexico and Colombia, iron-ore has been mi
primarily to supply the domestic market. Iron-ore
smelted in Mexico has averaged from 10 to 20 per cen
the total because of transport difficulties, the relativ
high production tax[12] and the Government's stockpil
policy.

3. Alloying metals (ores and concentrates)

This group includes manganese, chromium, nic
tungsten, molybdenum, cobalt, vanadium, columbi
and tantalum. They are used primarily in the manuf
ture of alloy steels, and hence the consumption of th
metals is closely related to the iron and steel indust

With the intense activity in the capital goods ind
tries, the prices of these metals have been subjected
heavy pressure, and world output has increased specta
larly. Over the period 1945-55, prices increased m
rapidly for this group of minerals than for any other sec
of Latin American mineral production, except cop

---

[7] World production of mineral fuels grew by only 5.9 per cent annually.

[8] In Western Europe, petroleum accounts for only 11 per cent of the fuel consumed by industry and provides 8 per cent of total energy requirements.

[9] These figures exclude coal gas, water gas and other such artificial fuels.

[10] The amount used by the petro-chemical industry is still small although it tends to increase with the new projects now being executed (see part Two, chapter II, section III, 8 (*b*)).

[11] The Chimbote steel mill in Peru and the Puerto Ordaz mill in Venezuela are in course of construction.

[12] The tax is 2.13 per cent, but ores used in smelters establis
in the country are exempt.

ble 67. Latin America: Production of alloying metals, as a percentage of world production and as a percentage of total value of minerals and metals mined in Latin America

	Latin America Total	*Mexico*	*Cuba*	*Argentina (Estimated)*	*Bolivia (Exports)*	*Brazil (Estimated)*	*Chile*	*Peru*
nganese	8.7 (0.5)	2.8 (0.6)	3.0 27.5	[a] (0.3)	— (—)	2.2 (5.2)	0.6 0.3	0.1 0.1
omium	0.5 ([a])	— (—)	2.0 3.6	0.1 (—)	— (—)	0.1 (0.1)	— (—)	— (—)
kel	6.0 (0.2)	— (—)	6.0 22.6	— (—)	— (—)	[a] (0.1)	— (—)	— (—)
ngsten	11.5 (0.7)	0.8 0.2	— (—)	1.0 (2.9)	6.4 (16.9)	2.1 (0.6)	— (—)	1.2 1.1
ybdenum	4.2 (0.1)	0.2 ([a])	— (—)	— (—)	— (—)	— (—)	4.0 1.1	[a] —
alt	[a] ([a])	[a] —	— (—)	— (—)	— (—)	— (—)	— (—)	— (—)
nadium	3.5 ([a])	— (—)	— (—)	0.1 (—)	— (—)	— (—)	— (—)	3.4 0.1
umbium and antalum	4.5 ([a])	— (—)	— (—)	[a] ([a])	[a] ([a])	4.2 (0.4)	— (—)	— (—)
al	... (1.5)	... (0.8)	... (53.7)	... (3.2)	... (16.9)	... (6.4)	... (6.4)	... (1.3)

Source: United States Bureau of Mines.

Note: The figures in parentheses indicate the percentage of the total value for each country in 1955.

[a] Less than 0.1 per cent.

n table 67 Latin American production of these metals is own both as a percentage of world production and as a rcentage of the total value of minerals and metals mined each country. Except in the case of tungsten, none of ese alloying metals equals as much as 1 per cent of the tin American total. Yet these metals are quite imrtant in the mining economies of Bolivia, Brazil and ba.

During 1946 and 1947 production and prices of these mmodities declined somewhat from their war-time aks, but there was a recovery during 1948 which has ntinued with few checks to the present day.[13] Despite s, Latin American production did not increase until 50, and virtually the entire increase—73 per cent—s confined to the period 1951-55.

In 1956, a series of significant advances was made in ning Latin America's numerous deposits of alloying etals. In Brazil, it was announced that mining had mmenced in a large manganese deposit at Cerro do vio, in the territory of Amapá. This project, which s initiated 5 years ago by foreign investors, has been led by a loan of 35 million dollars from the International nk for Reconstruction and Development and another 65 million dollars from the Export-Import Bank. tween 500,000 and 600,000 tons will be extracted in 57, which at current prices represents between 16 and million dollars. In addition, work continued at the orro do Urucum iron and manganese mine at Matto osso. Initial plans call for extraction of 50,000 tons per ar of manganese ore, following the investment of 5 million cruzeiros by a mixed United States and azilian concern. A third manganese deposit was ened during 1956 in the Amazon region, from which veral thousand tons of ore have been exported.

A rich manganese deposit in the State of Jalisco, exico, was also opened during 1956, while large-scale ports from Venezuela commenced, due to the opening the Upata mines. Plans are under way in the latter untry to set up a plant for the production of ferroanganese and to export it in this form.

Latin American production of nickel is centred in Cuba, where it rose from 13,733 tons in 1955 to 14,061 in 1956. Due to recurrent shortages of this metal, new steels have been developed on a commercial scale which do not require nickel. However steelmakers continued to pay high prices for the limited supplies of nickel available during 1956, and it is anticipated that the world demand will continue for several years.[14]

4. COPPER

The copper industry is one of Latin America's largest sources of foreign currency. In 1955, it accounted for 66 per cent of Chile's visible exports, 11 per cent of those of Peru and 9 per cent of those of Mexico. In Chile and Mexico, the two largest producers, production fell during the post-war period, by an average of 0.9 per cent per year in Chile and 1.0 per cent per year in Mexico. Only in Peru, among the region producers, did production increase (3.6 per cent annually). In Latin America as a whole, production declined by 0.5 per cent per year.

World copper production rose by 4.7 per cent annually during this period, in response to rapidly climbing prices, but Latin America's share fell from 29 per cent in 1945 to 17 per cent in 1955.

Developments in the world copper industry during 1956 indicated a reversal of the trends prevailing since 1953. During the two preceding years, heavy demand tended to raise prices far above production costs, despite frequent wage increases.[15] In 1956, a reduction in the rate of economic expansion in the United States and Western Europe reduced the demand, causing copper prices to drop to approximately the average costs of marginal producers. Yet world production continued to expand as a result of heavy investment between 1953 and 1956.

Prices edged upward during the first three months of the year, reaching their peak in March (see figure XVI).

---

[13] Between 1948 and 1955 the sharpest prices increases were ose of columbium and tantalum, cobalt, tungsten, nickel, nganese and molybdenum in that order.

[14] In addition, in 1955 and 1956, 10,800 and 33,250 tons respectively of nickel were diverted from the United States strategic stockpile. Normally stockpiling and defence account for 40 per cent of total output.

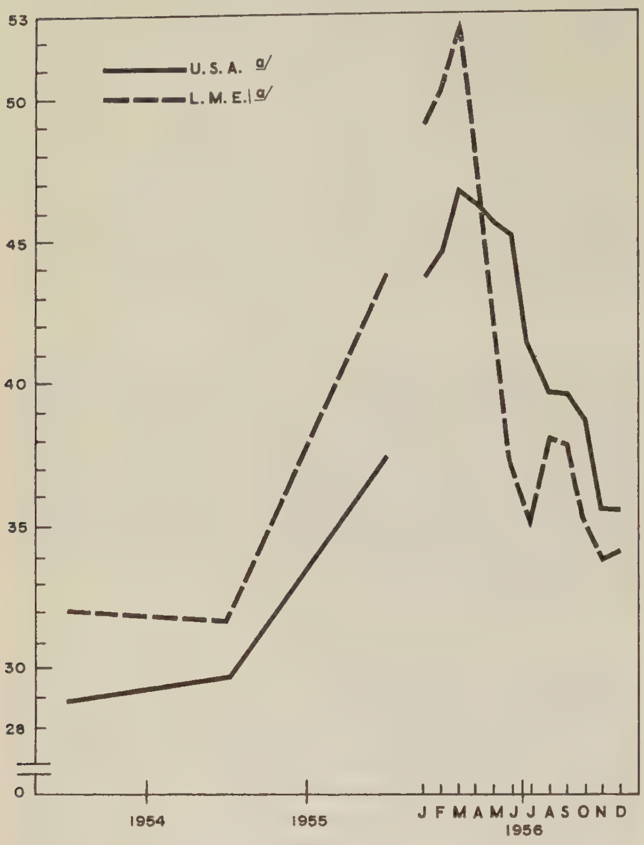
[15] Between 1952 and 1955, the average annual price of copper metal rose by 55 per cent. In 1956, this average was almost 42 dollar cents per pound, as compared with 24 cents in 1952.

Figure XVI

COPPER PRICES, UNITED STATES AND LONDON METAL EXCHANGE

(Dollar cents per pound)

Natural scale



Source: Engineering and Mining Journal.

[a] Electrolytic.

[b] Cash transactions, wire bars, 99 and 97 per cent pure.

Nevertheless, as from mid-April demand contracted, especially in Europe, causing drastic price readjustments. The London Metal Exchange (L.M.E.) quotation fell to approximately 42 cents, representing a drop of 12.5 cents per pound from the record established on 19 March. The United States market remained more buoyant, but there was an obvious disparity between the prices charged by the major producers and those of the small smelters which were more closely adjusted to demand conditions. By the end of May, copper could be bought in the United States for 40 cents a pound, although the major producers maintained their price at 42 cents.

In the United Kingdom, copper prices continued to sag, the L.M.E. quotation at the end of June standing at 33.6 cents per pound, and although the Suez crisis caused a short-lived rally in August, prices remained at from 33 to 38 cents during the remainder of the year.[16] One depressing effect on the market was the announcemen the United Kingdom Government that budgetary siderations made it necessary to release stocks of a num of strategic raw materials, among which were 36,000 of copper to be sold between October 1956 and May 1

In July 1956, the major United States producers low their prices to 40 cents. Three months later, it bec apparent that this downward readjustment had faile rally demand. Fearing competition from other me the major producers announced a further reductio 36 cents.[17] Two large United States producers immedi ly reduced their rate of mine output by about 4,000 per year.

Latin American production of copper increased in 1 by more than 14 per cent over the previous year's le This increase came mainly from Chile, which exceeded 1955 figures by over 11 per cent. On the other hand, prospecting and development of a number of new co deposits continued. The most important of these in 1 were the Toquepala project in Peru and the El Salva mine in Chile.[18]

In March, the Chilean Department of Copper (*Depa mento del Cobre*) authorized the investment of 52,950, dollars to develop the latter mine. Additional dril undertaken since that date has revealed the existenc 200 million tons of ore averaging 1.6 per cent copper, stead of the original estimate of 78 million tons. In v of this discovery, it was decided to alter the original te nical plan, so as to take advantage of the savings of la scale production.

An ambitious new plan to develop copper mining small and medium-sized operators was announced by *Caja de Crédito Minero* and the *Empresa Nacional Fundiciones*. The capacity of the Paipote smelter wil doubled to 260,000 tons of charge a year. A new rev batory furnace to produce 450 daily tons will be built a a large new converter installed. At the same time, Punta del Cobre mill situated near the Paipote sme will increase its capacity by 1,000 tons of ore per mon Copper leaching plants will be constructed at the Punta Cobre and Domeyko mills, and another near the Paip smelter. Additional mechanical equipment will also installed to lower the cost. Finally, the *Empresa Nacio de Fundiciones* has announced that a new smelter a electrolytic refinery, to serve the central zone of Chile, be erected and enter into operation by 1960. Its ini capacity will be 20,000 tons of copper a year, plus sulphuric acid which will be made as a by-product. cost of the project is estimated at 15 million dollars, to financed from funds set aside for the purpose under new copper Act.[19]

5. Lead and zinc

Lead and zinc accounted for 16 per cent of total La American mining output in 1955, having risen from per cent in 1945.[20] Both metals play an important rol mining economies of Argentina, Bolivia, Guatemala, nduras, Mexico and Peru. In 1955, lead and zinc nbined accounted for 12, 10 and 15 per cent respectively the visible exports of Bolivia, Mexico and Peru.

---

[16] As soon as the L.M.E. price had fallen below the United States major producers' price for Chilean copper, Chile denounced the agreement to sell copper in the United States at L.M.E. prices. The "single price system" for Chilean copper was thus operative for less than a month.

[17] In February 1957, the major producers' price was fur lowered to 32 cents per pound.

[18] For details of these operations, see *Economic Survey of L America*, 1955, *op. cit.*, p. 72.

[19] Act No. 11,828, approved in May 1955.

[20] Excluding mineral fuels.

atin American production increased by 5.1 per cent ually during the period 1945-55. World production e by 10.2 per cent during the same period, hence Latin erican production declined from 20 to about 12 per t of the world total. The rates of growth in the Latin erican countries varied considerably: production in entina increased by 1.6 per cent per year; in Bolivia, 5.7 per cent; in Mexico, by 4.2 per cent; and in Peru, 12.7 per cent.

he rate of growth of world production declined as n 1952, following the drop in international prices. contrast, the Latin American rate of growth declined re gradually, the explanation probably lying in the fact t Latin American mining does not adapt quickly to rket fluctuations.

ue to differences in their price patterns, the relative ortance of zinc and lead in the total value, at current es, fluctuated widely, but the volume of the two als remained much the same. In 1945, zinc represent- 34 per cent of the lead-zinc total, 32 per cent in 1950 38 per cent in 1955 all at constant prices. The value inc production, in relative terms, increased in Mexico Peru and fell sharply in Argentina and Bolivia.

he value of smelted lead and zinc dropped in relation the total value of both metals during the period 5-55; in other words, production of ores and concen- es increased at a much greater rate than smelting acity. Lead is smelted in Argentina, Brazil, Mexico Peru, and to some extent in Bolivia, Chile and Guate- a.[21] Zinc is smelted only in Argentina, Mexico and u. Substantial rises in maritime freight rates during ent months have increased the economic advantage ned from smelting the ores of these metals within the ducer countries.

s a result of its expanded zinc smelting capacity, Peru very soon be one of the world's largest producers of allic zinc. The major mining enterprise in the country been devoting a large part of its 81 million dollar ustrial expansion programme to increasing zinc output. Oroya smelter, which was expanded in 1955 by the allation of an electrothermic zinc smelter with a 45-ton ly capacity, is being further expanded to a total capac- of between 240 and 260 daily tons.

roduction of lead and zinc increased between 1955 and 6 by about 10 per cent in Mexico and Peru, but de- ed in Bolivia, judging from exports, by about 2 per t.

s commercial demand for lead and zinc during 1956 insufficient to absorb the supply, the stability of the ustry depended primarily on transactions by the ted States and United Kingdom Governments in nexion with strategic stocks. Heavy additions to the ted States strategic stockpile maintained prices at 16 and 14 cents per pound for lead and zinc respectively. Prices on the L.M.E. fluctuated within very similar limits. In view of the possibility that United States purchases for its stockpile would not last much beyond the beginning of 1957, attention was focused on the growing barter programme of the United States Department of Agriculture, which involves the exchange of Government-owned surplus agricultural commodites for minerals and other raw materials. During the fiscal year ending 30 June 1956, 104.9 million dollars' worth of commodities were so exchanged and the volume of transactions will probably increase in the future.

Commodities acquired in this manner are transferred either to the strategic stockpile or to a special supplementary stock; in either case they are withdrawn from the world market. During 1956, the Commodity Credit Corporation (C.C.C.) began to acquire these metals, issuing contracts for the purchase of lead and zinc to the value of 18.1 and 41.5 million dollars respectively between July and November. Procurement is limited to metals of foreign origin and metals smelted in the United States from imported ores.

6. PRECIOUS METALS

Precious metals are produced in all the Latin American countries, with the exception of Haiti, Paraguay and Uruguay. Platinum is mined only in Colombia, while Venezuela and the Dominican Republic produce only gold. In all the other countries production is divided between gold and silver.

Gold and silver mainly make up the value of Latin American production of precious metals. Platinum accounts for less than 2 per cent of the total. Silver has been gaining in value recently in relation to gold. In 1945 it represented approximately 39 per cent of the total value at current prices, rising to 48 per cent in 1950 and to 54 in 1955.[22]

Although world production of all three metals increased by 3.2 per cent annually during the period 1945-55, production in Latin America shows an average decline of 0.8 per cent. Colombia's production fell by 1.5 per cent annually; Mexico's by 2.1 per cent; Brazil's by 3 per cent, and Chile's by 2.5 per cent. By contrast, in Bolivia and Peru, production increased by 1.8 and 4.8 per cent respectively *per annum.*[23]

The price index for this commodity group shows the lowest rate of increase of all mining sectors in Latin America: 1.80 per cent per year. The rise was accounted for entirely by silver and platinum, the dollar price of gold remaining unchanged during the entire period. Silver prices increased by 3.41 per cent annually. For most of the years under review, production and prices moved in opposite directions. Obviously price fluctuations had little short-term effect on production.

Smelter production in the last two countries began during the -war period.

[22] However, as movements of monetary gold are not always distinguished in the statistics, the figures can only be approximate.

[23] It seems unlikely that gold production has really increased in Bolivia; it is possible however that the greater exports represent movements of gold currency reserves.

7. Miscellaneous metals

This heterogeneous group includes tin, antimony, mercury, beryllium, selenium, strontium, zirconium, bismuth, cadmium, indium and thallium. Of these, the last four are not usually produced as ores but are recovered from the smelting or refining of non-ferrous metals.

For Latin America as a whole the total production of this group of metals declined by 2.34 per cent annually, because there was a 3.14 per cent annual drop in the mining of tin, which is the most important of all of them in the region's economy; moreover, production in the other countries showed the very low growth rate of 1.91 per cent per year over the period.

Prior to 1954, tin represented from 85 to 90 per cent of the total value of this group.[24] After that date this metal began to decline in relative importance, while that of other metals in the group rose proportionately.

The most outstanding example of growth in the production of these metals has been in Mexico, where tin production tripled during the post-war period.[25] Production of selenium increased by more than a hundredfold. These results are attributable to the system of tax exemptions, subsidies and fiscal contracts designed to stimulate small and medium-scale mining which was introduced during the post-war period. It is estimated that indirect subsidies to mining activity totalled more than 100 million pesos in 1956, which helped to finance the mining of new deposits and of high-cost mines, the replacement of obsolete equipment, the construction of processing plants and the improvement of transport facilities.

The gap between world production and consumption of tin continued to narrow during 1956. The surplus, which had amounted to 44,200 tons in 1953, was estimated to be only 8,600 tons in 1956.[26] The closing of the Suez Canal put out of commission the route through which the metal is shipped from south-east Asia to Europe, delaying more than 1,500 tons which had to be transported by longer routes. This and the purchases made by the United States for its strategic stockpile during the year served to keep the market firm. In addition, adequate consumer stocks limited price fluctuations.

Another moderating factor was the prospect of future stabilizing activities under the International Tin Agreement, which entered into force on 1 July. The International Tin Council assembled for the first time and called upon the producing countries to form buffer stocks.[27] The contributions of the producing countries must be made in cash at the rate of 640 pounds sterling per long ton, as the price of tin remained above this level during the year. By the end of 1956 the Council was in a position to maintain the market in the event that prices dropped below 720 pounds sterling per long ton; but unable to intervene in the event of a price rise.

One of the most important questions raised in Council was the Bolivian proposal that there should scaling upwards in the limits within which the stabili activities of the Agreement would enter into operati The proposed amendment reflects the fact that produc costs have risen considerably since the Agreement signed. The Council has the power to change these li by a simple majority vote, but no action has yet taken, although many producers are now in favour revision of prices.

During 1956, administrative and technical refo were introduced in Bolivia in an effort to intensify mi activity, which is vital to the country's economy. view of the rapid exhaustion of the reserves in m mines, it was decided to intensify prospecting for deposits. Plans were drawn up to promote standard tion of equipment and working methods in the natio ized mines. In spite of low yields and work stopp due to labour disputes, tin production declined by 1 per cent in the State mines. The low output at chisla, Colquiri and other mines was balanced by a siderable increase at Catavi, due to the installation new processing plants. Total exports of tin in 1956 27,273 tons, as compared to 28,369 in 1955.[29]

Of the 1956 total, roughly 84 per cent was produce the nationalized sector and the remainder by priva owned small and medium-sized mines. The share of private sector has remained constant with regard to and has risen somewhat over 1954 (14 per cent). Yet still far below the 1952 level (6,965 tons = 21 per c both in relative and absolute terms.

An important reform in the treatment of priva owned mines was introduced under the stabilization gramme of December 1956. For some years, export minerals had been negotiated through the *Banco Min* which set local currency prices for minerals purchased permitted the companies to retain only 20 per cent of foreign exchange derived from the sale of their out This system was abolished and the private produce now entitled to payment in foreign exchange calcula on the basis of the actual price obtained for the expo minerals, less appropriate deductions for realization c and costs of services rendered by the *Banco Min* The foreign currency thus acquired may be sold with restrictions on the free exchange market. The return private producers, as well as of nationalized mines, increased by the devaluation of the boliviano to 7,70 the dollar. On the other hand, production costs substantially following the removal of preferential r for imports of equipment and supplies. Finally the structure was simplified; a new single tax was impose both the nationalized and the private sectors, based on gross value of minerals exported.

---

[24] Bolivian production of tin has remained at about 97 per cent of Latin American output.

[25] From 177 tons in 1945, production rose to 595 tons in 1956.

[26] In 1954 it had been 37,100 and in 1955, 27,300 tons. The figures for the first 9 months of 1956 may be found in the International Tin Study Group: *Statistical Bulletin*, November 1956.

[27] For further details of the International Tin Agreement of 1953, see *Economic Survey of Latin America*, 1955, *op. cit.*, pp. 73-74. In addition to the member countries listed, Israel, Italy and Turkey have subsequently joined, and the admission of Austria has been approved.

[28] The Agreement provides that the buffer stock of tin ma offered for sale whenever the price in the London Metal Excha rises above 880 pounds sterling per long ton. On the other h when it falls below 640 pounds sterling, tin may be bought either the cash price on the Exchange is above this limit or funds available for this purpose are exhausted.

[29] Exports were 35,384 tons in 1953 and 29,287 tons in 1

ue to the closing, early in 1957, of the smelter at ghorn, Texas, owned by the United States Govern- t, Bolivian tin minerals will henceforth be exported ely to Europe. However, the private corporation h purchased the smelter has stated that some of its ities will remain in operation for the smelting of tin. ation of the smelter will in future be on a much re- d scale, after it has undergone the necessary remodel- for the production of tin alloys and tungsten. Boli- tin production for 1957 is now completely contracted nder new contracts with smelting firms in the United gdom and the Federal Republic of Germany.

8. Chemical minerals

his commodity group includes magnesium sulphate, ne, potassium salts, nitrate, phosphate rock, fluorspar, tes, arsenic, sulphur, salt and guano.[30] The group ather arbitrarily defined, since it is doubtful whether e than 15 per cent of the regional production of these erals is actually consumed by the chemical industries Latin America.

uring the post-war period, production fluctuated ely, increasing by about 1.1 per cent per year on the rage. However, excluding nitrate, the annual growth would be approximately 10 per cent, which is far ve the average for mineral products. Production for group as a whole increased by 11.7 annually in Mexico, per cent in Peru, 4.9 per cent in Argentina, 4.1 per cent Brazil. It fell by 0.8 per cent per year in Chile.

rices increased by 7.5 per cent annually during the od 1945-55. The increase was much less during the er half of this period, but even so, virtually all of the duction increase was concentrated in the years 1950-55.

he various components of this group showed widely ying patterns of development. Nitrate declined slowly absolute and relative value, continuing its pre-war d. Arsenic declined more sharply to less than one- of its 1945 value by the end of the period. Salt and ne showed no tendency to increase. Guano produc- doubled between 1945 and 1950, increasing thereafter he same rate as the group as a whole. Potassium salts eased spectacularly during the latter half of the period, easing almost tenfold in 1952 and doubling again by 5. Sulphur showed little change until 1954, rising ressively thereafter. As a result of these changes, ate accounted for 61 per cent of the total value of the up in 1955; guano for 6 per cent; iodine for 3 per cent; assium salts for 2 per cent; fluorspar for 5 per cent; for 6 per cent; and sulphur for 14 per cent. Magne- m sulphate, phosphate rock, pyrites and arsenic to- her made up only 1 per cent of the total.

Sulphur production in Mexico made great strides again 1956. Production increased from 520,000 tons in 1955 775,000 tons in 1956. This increase was largely the re- t of expanded productive capacity. One of the two erprises operating at the beginning of the year was anding its plant to produce up to 1 million tons annually, while a third went into production installing a Frasch process plant on the Isthmus of Tehuantepec. Two other companies also began to build extraction plants which should be producing by the first half of 1958. Meanwhile, the Government-owned *Petróleos Mexicanos* announced that it plans to instal a sulphur plant at its refinery in the capital. As a result of these developments, world sulphur users were assured of ample supplies over the short term and at relatively low cost.

During 1956, final approval was given by the Chilean Congress to the Agreement of 10 December 1954, amending the exchange and investment treatment accorded to the nitrate companies. Although tax rates remained unchanged, a change in the basis of cost computation (increased amortization allowances) reduced the actual tax burden. A further investment incentive was provided by a more liberal import duty exemption on machinery, spare parts, accessories and chemical materials for production processes.[31]

As a result of all the foregoing, capital was invested in the industry in the expectation of offsetting costs by the recovery of sodium sulphate and magnesium, potassium perchlorate, potassium nitrate and other by-products. One firm, aided by a 16 million-dollar loan from the Export-Import Bank, plans to expand production and improve its material-handling installations by modernizing railway equipment and installing a mechanical loader at the port of Tocopilla. Another firm, the recipient of 11.9 million dollars from the same source, plans to treble the present output of its Victoria plant.

9. Miscellaneous non-metallic minerals

This group includes asbestos, mica, graphite, quartz, talc, barite, diamonds, feldspar, diatomite, kaolin and magnesite.[32] The commodities listed are mined in Argentina, Bolivia, Brazil, Chile, Colombia, Mexico, Paraguay, Peru, Uruguay and Venezuela. Brazil, Mexico and Venezuela account for about 95 per cent of the total. Production of non-metallic minerals grew most spectacularly in Venezuela, by 18.6 per cent per year, although diamonds accounted for virtually all of this country's output. Production in Brazil grew by about 4.7 per cent per year, including substantial quantities of asbestos, mica, graphite, quartz, talc, barite, diamonds, magnesite and feldspar. In 1955, these non-metallic minerals comprised about 11 per cent of the total output of Brazil. In Mexico, increased production of graphite was offset by a sharp decline in the mining of mica, the total increasing by only 0.7 per cent per year.

Increased production of a number of these minerals, particularly for export, has facilitated the establishment of a number of new industries in Latin America. Yet unstable production and transport difficulties have retarded the growth of such industries during the period under review.

Despite its organic origin, guano has been included because s an extractive product similar to the other components of this up.

[31] The effect of these provisions was reduced to some extent by the drop of 1.75 dollars per ton in the price of nitrate, while at the same time freight rates were increased.

[32] The group is really much broader, but only those commodities have been included here for which statistics exist.

Chapter IV

ENERGY

I. INTRODUCTION

Latin America's production of the commercial types of energy was 12 per cent higher in 1956 than in 1955, amounting in the aggregate to the equivalent of 177 million tons of petroleum and exceeding the region's consumption by 107 million tons. If, however, the large share contributed by Venezuelan petroleum is excluded from the Latin American energy total, it will be seen at once that production failed to equal consumption, which in many cases necessitated heavy foreign exchange expenditure on fuel imports. When the sector's substantial capital requirements are also taken into account, it becomes readily understandable that the problem of energy supplies was still a serious one for several countries. Consumption in the region as a whole increased by over 8 per cent in relation to 1955 and reached the equivalent of about 71 million tons, as is shown in table 68.[1]

The largest contribution to the energy supply was made by petroleum and its derivatives, which accounted for 77 per cent of the total; these were followed by hydroelectricity, with a share of 14 per cent, and lastly by mineral coal, representing 9 per cent. This break-down, which differs only slightly from the distribution registered in 1955, is shown by countries in table 68. Attention should be called to the fact that, as in previous years, little advantage has hitherto been taken of hydroelec power in any of the countries, despite the abund natural resources which most of them have at t disposal.

Table 69 gives the figures for the fuel imports nee to keep Latin America supplied with energy. Such ports represented 41 per cent of total consumption of commercial forms of energy. Argentina and Brazil the two countries which have to import the largest qu tities in terms of absolute values, although more than the Latin American republics meet their entire dem for fuels with imports. Owing to the tendency tow local refining of petroleum, which has already show considerable advance in a number of countries, purch abroad are veering towards crude rather than refi products.

Production of petroleum was highest in the last years. Supplies of electric energy improved, but the creases did not fully cover the needs of a steadily grow demand. The new thermic or hydroelectric plants brou into service and the expansion of some of the existing c sufficed as a rule only partly to bridge the gap betw production and unrationed consumption. On the ot hand, no progress was made in coal mining. The contr tion of the markets as a result of competition from pe leum impeded its development, as well as difficulties re ing to extraction itself and to transport in certain ca

Governments displayed renewed interest in ene problems and, broadly speaking, took more energ

Table 68. Latin America: Production and consumption of commercial energy, 1956[a]

(Thousands of tons of petroleum equivalent)

Country	*Petroleum and natural gas*		*Mineral coal*		*Hydro-electricity*	*Total*		*Percentage incre over 1955*	
	Production	*Consumption*	*Production*	*Consumption*	*Production*[a]	*Production*	*Consumption*	*Production*	*Consu tio*
Latin America	161,990	53,570	4,780	6,570	10,180	176,950	70,320	12.0	8.
Excluding Venezuela	30,770	45,130	4,760	6,550	10,010	45,540	61,690	6.6	8.
Argentina	5,016	12,540	100	1,110	167	5,283	13,817	2.3	11.
Bolivia	457	280	—	3	124	581	407	16.3	5.
Brazil	581	9,850	830	1,350	5,154	6,565	16,354	17.4	11.
Chile	516	1,860	1,580	1,700	1,019	3,115	4,579	7.6	2.
Colombia	6,378	2,190	1,270	1,270	673	8,321	4,133	7.7	9.
Ecuador	490	370	—	—	55	545	425	− 1.6	7.
Mexico	14,480	11,000	930	960	1,783	17,193	13,743	4.2	5.
Peru	2,752	1,820	50	50	620	3,422	2,490	4.7	3.
Uruguay	—	1,170	—	70	217	217	1,457	−24.1	5.
Venezuela	131,220	8,440	20	20	170	131,410	8,630	14.0	11.

Source: ECLA, on the basis of national statistics.

Note: The figures relating to 1956 in this and the subsequent tables in the present chapter are provisional, as they include a f number of estimates based on incomplete data.

[a] Production and consumption are measured in terms of their equivalent in petroleum of 10.700 cal/kg. This table refers to gr energy, i.e., in addition to the energy which reaches the consumer, the energy expended on its production, transformation and transpo Commercial energy excludes vegetable fuels.

---

[1] The contribution of vegetable fuels, estimated at about 25 million tons of petroleum equivalent, is not taken into account here, as the corresponding figure is unreliable and is usually not incorporated in statistics.

Table 69. Latin America: Fuel imports, 1956

Country	Crude petroleum		Petroleum derivatives		Coal[a] Thousands of tons	Percentage of imports in gross consumption of commercial energy
	Thousands of tons	Percentage variation in relation to 1955	Thousands of tons[a]	Percentage variation in relation to 1955		
Latin America	11,230	18.4	15,770	2.3	2,800	41
Argentina	4,270	4.3	3,576	41.9	1,530	64
Bolivia	—	—	17	25.9	3	5
Brazil	5,038	43.5	4,450	−11.9	775	61
Chile	461	46.3	758	−37.6	...	32
Colombia	—	—	425	− 5.6	—	10
Ecuador	—	—	74	−14.0	—	17
Mexico	—	—	2,311	2.9	—	17
Peru	—	—	278	18.8	—	11
Uruguay	1,190	−3.2	249	126.4	85	100
Venezuela	—	0	30	−62.5	...	—
Others	270	0	3,600	3.0	57	91

Source: ECLA, on the basis of official statistics.
[a] Petroleum equivalent of 10.700 cal/kg.

s to solve them, creating or studying further incentives reby to secure in several cases the collaboration of pri- capital. Hence new work programmes have emerged, se prospects and problems will be discussed later.[2]

he first advances made in the peaceful uses of atomic gy undoubtedly helped to focus public attention on energy sector. Although in some parts of Latin Ame- consumption is sufficiently concentrated to make nic plants a practical proposition before very long, it nlikely that this form of energy will be able to meet a ificant proportion of total demand within the next nty-five years. Nevertheless, the region has followed d developments in this field with close attention and taken part in them as far as lies within its power, giv- ts experts every encouragement to make appropriate parations.[3]

II. PETROLEUM AND ITS DERIVATIVES

Consumption of liquid fuels increased in 1956 by 8 per cent and by an even higher figure in several of the countries where demand was greatest. The break-down of this demand by the various derivatives was much the same as in 1955 (see table 70).

The growth of crude petroleum production considerably outstripped that of consumption in Latin America as a whole, as can be seen from table 71. It was in Venezuela that the most intensive activity was registered in petroleum extraction. The substantial expansion of production was partly due to the normal growth of demand in the domestic and export markets and partly to the need, during the last months of the year, for extra shipments to help towards the partial replacement of supplies from the Middle East, which were cut off by the blocking of the Suez Canal and the closing of certain pipelines.[4]

The output of nearly 129 million tons of crude exceeded that of 1955 by 14 per cent. This was the highest rate of

---

See section V of this chapter.

In 1956 a United States electricity company's order finally through for the construction of three 10,000 kW plants to be lled in Latin American countries where the company has idiaries. To these will be added a plant with a capacity of 00 kW which is to be established in the Dominican Republic construction of which was also approved.

[4] See the special annex dealing with the problem in question at the end of part one of this *Survey* (E/CN.12/427).

Table 70. Latin America: Consumption of liquid fuels and natural gas

Country	Total consumption (thousands of tons of petroleum equivalent)	Percentage increase over 1955	Consumption break-down			
			Fuel oil	Diesel and gas oil	Petrol	Paraffin
			(Percentages)			
Latin America	53,570	9.1	44.8	14.5	23.5	8.1
Argentina	12,540	12.6[a]	58.1	14.9	13.9	8.5
Bolivia	280	4.1	39.9	17.0	32.2	10.9
Brazil	9,850	13.8[a]	40.5	16.1	30.9	6.3
Chile	1,860	2.5	51.6	12.0	22.2	9.5
Colombia	2,190	5.6	32.2	13.4	44.2	9.4
Ecuador	370	6.7	35.6	16.0	41.1	7.3
Mexico	11,000	4.6	35.0	10.9	27.1	11.1
Peru	1,820	3.5	30.6	16.6	35.2	14.5
Uruguay	1,170	13.8	47.7	14.2	22.3	14.8
Venezuela	8,440	11.1	36.3	11.4	17.1	4.9

Source: ECLA, on the basis of national statistics.
[a] This high percentage was mainly determined by the increment in consumption of fuel oil, which rose by 17.6 per cent in Argentina and 16.6 per cent in Brazil. Consumption of the most expensive product, petrol, did not increase in Argentina and expanded by only 4.8 per cent in Brazil.

Table 71. Latin America: Production of crude petroleum, refining and refining capacity[a]

(Thousands of tons)

Country	*Production*[b]		*Refining*		*Refining capacity*[b]		
	1956	*Percentage increase over 1955*	*1956*	*Percentage increase over 1955*	*1955*	*1956*	*Under construction in December 1956*
Latin America . .	157,620	12.6	65,550	11.7	60,690	66,340	11,730
Excluding Venezuela . . .	28,960	5.9	33,330	8.7	35,190	37,790	7,950
Argentina	4,440	1.6	8,770	2.5	9,830	9,830	590
Bolivia	460	18.7	400	32.2	510	510	—
Brazil	580	100.9	5,670	54.1	5,140	5,370	1,420
Chile	510	37.3	960	39.7	950	950	—
Colombia	6,280	8.0	2,050	1.5	2,050	2,050	1,250
Cuba	90	127.3	360	. . .	. . .	410	3,460
Ecuador	490	−6.8	250	−12.5	290	290	—
Mexico	13,480	3.1	11,520	0	12,650	15,020	1,180
Peru	2,630	6.5	2,240	5.7	2,180	2,180	50
Uruguay	—	—	1,110	−5.5	1,180	1,180	—
Venezuela	128,660	14.2	32,220	15.0	25,500	28,550	3,780

Source: ECLA, on the basis of national statistics.

[a] Calculated on the basis of 330 working days per year and an average density of crude of 0.9. Note that in the *Economic Survey of Latin America,* 1955, *op. cit.,* the calculation was based on 350 working days per year.

[b] Including ordinary petrol and excluding natural gas.

growth recorded in the last four years. The increase was attributable to more intensive extraction in the wells already in production and to the new drillings which came into operation in the course of 1956.

The event of the year in the Venezuelan industry was the granting of new concessions to private capital, after a period of more than ten years during which the Government had opened up no new districts prospecting and exploitation. The total area thus leased in 1956 covered more than 380,000 hectares.

In Mexico, which comes second among the region's producers, the expansion was moderate. Owing to the demands of growing consumption of which the geographic distribution presented many problems, a very high proportion of the funds at the disposal of PEMEX was absorbed by the installation of pipelines and the construction of new refining facilities or the enlargement and improvement of those already in existence. Consequently, the resources that remained were insufficient for the expansion of production and prospecting intended to increase current reserves.

A considerable amount of prospecting was carried out in Colombia, both in the zone worked by the national enterprise and in the concessions exploited by third parties. Production which was threatened by the decline in the two main concessions was successfully stabilized—the new drillings made by these two companies having yielded satisfactory results—and was also intensified in new areas. Government policy sought to attract foreign capital to the *llanos* lying east of the Andes, a region difficult of access, but potentially very rich in petroleum.

Argentina's output increased by only 1.6 per cent. As more than four-fifths is produced by *Yacimientos Petrolíferos Fiscales,* development was conditioned by the limited financial resources assigned to this organization
by the authorities. Studies carried out during the y
confirmed the policy of basing the country's supplies
state action. A programme was drawn up to double p
duction of petroleum and natural gas within 4 years;
target set for 1960 was a total equivalent to some
million tons, which would cover two-thirds of that yea
consumption as against the 40 per cent at present con
buted. Argentina's proven natural resources are suffici
for the attainment of this target. Transport facilit
constitute the chief obstacle, as all the areas currently
production or likely to be so in the immediate future
remote from the large consumer centres. The process
recovery will have to start with the laying of very imp
tant oil and gas pipelines.

The hopes set on the coastal desert of Sechura in Pe
were virtually dashed. Since 1950, when the area w
opened up for private prospecting, 1.3 million hecta
have been conceded for this purpose. By the end of 19
only 150,000 hectares remained in the hands of the co
panies; the remainder was returned to the State as dev
of interest. This effort is estimated to have involved
expenditure of over 20 million dollars. Attention is n
concentrated on the eastern Sub-Andean strip, wh
small-scale production has already been going on for so
years supplying part of the requirements of the Amaz
area. Concessions recently granted cover more th
14 million hectares. As Peru's consumption of petrole
and its derivatives is still increasing faster than prod
tion, the country may be transformed from an expor
to a net importer of liquid fuels, if new deposits are
discovered soon.

The problem in Ecuador is even more acute. In 19
the rate of extraction declined in the fields already in p
duction and prospecting failed to reveal new depos
possibly because only a moderate effort was made. N
concessions for petroleum prospecting were granted in

n plains, where some years ago a foreign enterprise
almost 40 million dollars in fruitless drillings.
ossibilities revealed by the sub-Andean region in
countries, such as Bolivia, Colombia and Peru,
y the belief that reserves may also exist in the
ponding districts of Ecuador.

duction was comparable in Bolivia, Brazil and Chile,
it is in the hands of State organizations, and its
h was considerable in 1956. The significance to the
nal economy of the volume produced differs from
country to another. In Bolivia's case, domestic
rements were recently covered, leaving an exportable
us. Chile is on the way to attaining self-sufficiency
the short term if the needs of the large exporting
g companies are excluded. In Brazil, on the other
the increment supplied only 6 per cent of the coun-
requirements in 1956.

ese countries displayed considerable productive
ity in the course of the year, although they also had
problems. Production in Bolivia is costly because
e inaccessibility of the deposits. Furthermore, the
a which a few years ago enabled production to be
ned in the main oilfield are beginning to show signs
haustion. The country's economic difficulties have
icapped financing by the State organization; and
r the new economic stabilization policy less public
al will be allocated to this activity. To compensate
his, international private capital is available. As
as mid-1956, in fact, a large United States enterprise
ed prospecting and others have applied to the Govern-
for concessions.

ile's production followed a normal although accel-
d course along lines determined by the programmes
e State enterprise in the Antarctic zone, on the
ern shore of the Straits of Magellan. With this ex-
ed production of crude, plus the entry into operation
e national refinery two years ago, the enterprise has
ne self-sufficient as regards the capital needed for
um-term development adjusted to Chile's require-
s, excluding the needs of the large mining companies.
56 the Government presented a bill to authorize the
itation of petroleum by private capital outside the
currently worked by the national enterprise. If this
s passed, Chile could learn more about its possibilities
respect to this natural resource, which in some circles
ot thought to be very great in view of the geological
guration of the territory.

azil, on the other hand, contains vast tracts of land
e petroleum is likely to be found and where prospect-
as only just begun. Up to now production has been
ely in the hands of the State organization (PETRO-
S). In 1956 the Government drew up a programme
e development of energy sources, in which particular
rtance was attached to petroleum. It is expected
the reform of the system of taxation whereby
ROBRAS is financed will enable it to intensify its
tions considerably. The measures adopted already
fruit in 1956, inasmuch as very significant percentage
ases were registered in the production and processing
ude. The exceptional increment in the production
ude petroleum was largely due to the completion
main pipeline 50 kilometres long which
facilitated the flow of oil. The proven reserve was also considerably increased. Prospecting in the vast Amazon basin has resulted to date in the drilling of a few wells, but future effort in this direction will be largely concentrated in the Amazon area.

To complete the foregoing picture, mention must be made of prospecting in other Latin American countries, which has not yet led to production on any significant scale. In Cuba promising formations were discovered in 1956, and local and foreign investors displayed considerable interest, in the possibilities of exploiting them, which was further encouraged by the State. But recent results have been disappointing and the volume of production is still negligible. In Central America also certain foreign companies are prospecting for oil; while the Government of Uruguay contracted for trial drillings of twelve wells.

Apart from the petroleum industry's own consumption, the use of natural gas as a fuel became more widespread in Argentina, Mexico and Venezuela. In Argentina, the gas-pipe from Buenos Aires to the southern oilfields was reinforced. Reserves were also located in the oilfields on the northern frontier, which will be transported by means of a pipeline 1,700 kilometres long, already included in the programme for the revival of the industry. By 1960-61 this should increase the country's consumption of natural gas equivalent to 3.5 million tons of petroleum.[5]

Mexico is preparing to export natural gas to the United States at the rate of one million tons of petroleum equivalent annually. This would be approximately equal to the amount used by Mexico itself in 1956, a fact of unquestionable importance for the country's industry. The gas would come from the oilfields on the north-eastern frontier, and would be purchased by a private company in Texas which is to build a pipeline 675 kilometres long to carry the gas to its markets.

Following the creation of the State organization known as the *Instituto Petroquímico Venezolano*, Venezuela has begun to use natural gas in the manufacture of petrochemical products. The organization in question is also planning a national network of pipelines which will supplement those currently serving Caracas, Valencia and Puerto La Cruz. These measures are part of the Government's policy of cutting down the quantities of gas at present flared and wasted. Of the 27,300 million cubic metres of natural gas produced in 1956 (24 million tons in terms of petroleum equivalent), 11 per cent was utilized as fuel in the industry itself and by third parties, some 16 per cent was reinjected into the deposits and the remainder was wasted. The new concessions granted by the Government include provisions to promote the wider use of this fuel.

Both petroleum refining and the construction of distilleries considerably increased in Latin America during 1956 at the same rate as the extraction of crude. In those Latin American countries where a petroleum industry exists, the attempt is being made to keep refining capacity abreast of domestic consumption, and this effort has been almost universally successful except in Argentina, Brazil,

---

[5] That is, rather more than 20 per cent of consumption would be covered by this means. The present figure is 4.5 per cent.

Table 72. Latin America: Production of mineral coal

Country	*Total* 1955	*Total* 1956 [a]	*Rates of variation in production* 1950-55	*Rates of variation in production* 1955-56	*Proportion of consumption*
	(Thousands of tons)		*(Percentages)*		*(Percentages)*
Latin America	7,270	7,470	5.0	2.7	79
Argentina	151	151	10.3	0	9
Brazil	1,554	1,570	2.8	0.8	78
Chile	2,308	2,350	1.1	1.9	93
Colombia	1,800 [a]	1,900	12.3	5.6	100
Mexico	1,343	1,390	8.1	3.6	100
Peru	84	75	−5.9	10.6	100
Venezuela	30	33	1.7	10.0	100

Source: ECLA, on the basis of official statistics.

[a] Provisional figures.

[b] Gross production of marketable coal.

Chile and Cuba. The State organization in Brazil is planning to raise its current figure to 100 per cent very shortly. Cuba has plants under construction whose output will exceed domestic demand. Chile's refinery actually meets almost the whole of the country's requirements, although it still does not cover the high consumption of the large exporting mining companies. The heavy derivatives needed by these companies could not be obtained under an ordinary refining programme and the companies concerned import them with their own foreign exchange.

Estimates based on projects under way suggest that global self-sufficiency will have been attained within the next five years by the Latin American countries that possess refineries, which account for about 95 per cent of the region's consumption. This does not preclude the possibility of trading surpluses in excess of domestic requirements.

III. MINERAL COAL

Production and consumption of mineral coal in Latin America remained at almost the same levels in 1956 as in 1955. The region's output was estimated at some 7.4 million tons, which cover 80 per cent of Latin America's consumption (see table 72).

The coal-mining enterprises whose production supplies the domestic requirements of each country's metallurgical industry and is proportionate to their demand, as is the case in Mexico and, to some extent, in Brazil, Colombia and Peru, had no market problems. But in many of them productivity was low, as a result of the failure to earmark enough capital for mechanization. If this circumstance is taken in conjunction with the shortcomings and high costs of freight, it will readily be understood that with respect to prices domestically produced coal compared unfavourably with the imported product.

The largest coal-mining industry in Latin America, that of Chile, faced serious problems in 1956. Its two most important enterprises, which together produce almost 90 per cent of the country's total output, registered a downward trend in extraction, because the faces at present being worked are not altogether satisfactory from the standpoint of economic exploitation, and new and highly mechanized shafts need to be sunk. Apart from aspect relating to the natural resource itself, there is other and more serious problem—that of the mar The progressive switch-over from coal to diesel oil on railways, the greater use of oil-burning vessels, the w application of this fuel for industrial purposes and heat the new refinery gas, etc., have brought consumption to a standstill. Concern for the coal industry in Chile reflected in a number of measures designed to revive Halfway through the year the Government lifted price restrictions, but as a control measure it reserved right to lower customs tariffs on imported coal in or to regulate the price by means of competition with fore coal. Furthermore, it applied to the International Ba of Reconstruction and Development for a 13 mill dollar credit to expand and improve installations.[6]

IV. ELECTRIC ENERGY

Electricity supplies improved in 1956. On the basis known data, production can be estimated to have creased by about 10 per cent. If only electricity produc for public utility purposes is considered, which is the ty of production registered in statistics, the rate of increase still higher. Tables 73 and 74 give the production a production capacity figures for the last two years in public service enterprises of the various Latin Americ countries.

In Argentina the supply of electric energy improv comparatively little in relation to consumer requiremen The most drastic shortage, that of Greater Buenos Air remained unreliable, as no new plant entered producti to cover the existing deficit of more than 400,000 k The San Nicolás plant, with a capacity of 320,000 k was completed, but could not provide the 200,000 k

---

[6] The studies carried out by the *Corporación de Fomento* on t long-term situation of the Chilean coal market suggest that t market is capable of expanding and permitting the normal grow of the mining industry, provided that certain definite develo ment measures are adopted. The factors likely to give a spont neous impetus to the demand for coal will be on the one hand t reduced use of firewood in the south of the country (because the increasingly long distances between the forests and the co sumer centres) and, on the other, the growing demand for coki coals.

Table 73. Latin America: Production of electricity for the public service

Country	Total		Hydroelectricity		Growth [a]	
	1955	1956	1955	1956	1950-1955	1955/56
	(Millions of kWh)		(Percentages)			
Latin America	31,300	34,740	55	59	9.4	11.1
Argentina	5,944	6,280	6	10	6.1	5.7
Bolivia	220	220	95	93	5.4	0
Brazil	10,716	12,420	80	90	10.0	15.8
Chile	1,823	1,920	86	90	9.8	5.2
Colombia	1,800	1,940	70	69	11.7	7.8
Costa Rica	260	290	..	80	10.2	13.1
Cuba	1,134	1,270	—	—	9.6	12.4
Ecuador	212	235	44	45	15.1	10.8
El Salvador	135	155	..	98	10.0	14.8
Guatemala	134	145	..	73	8.4	8.0
Honduras	25	27	..	26	4.1	8.0
Mexico	5,652	6,270	49	49	9.8	10.9
Nicaragua	49	53	..	6	6.9	8.2
Peru	615	675	84	80	13.8	10.0
Uruguay	1,024	1,065	66	48	10.7	4.1
Venezuela	1,250	1,450	..	..	17.7	16.0

Source: ECLA, on the basis of national statistics.

[a] Cumulative annual growth rate.

Table 74. Latin America: Installed capacity of electric power plants

Country	Public services						Total	
	Total		Hydroelectric		Under construction in December 1956		(Public and private)	
	1955	1956	1955	1956	Total (thousands of kW	Hydroelectric (percentages)	1955	1956
	(thousands of kW)		(percentages)				(thousands of kW)	
Latin America	8,500	9,360	51	53	3,900	73	10,950	11,850
Argentina	1,629	1,772	6	13	234 [a]	96	2,069	2,212
Bolivia	60	70	85	87	10	60	100	112
Brazil	2,094	3,340	80	82	1,490 [b]	88	3,082	3,518
Chile	527	531	77	76	129 [c]	88	959	969
Colombia	420	450	..	..	278	71	520	553
Costa Rica	51	68	70	64	30	100	64	81
Cuba	297	297	—	—	85	—	635	645
Ecuador	48	59	43	46	43	56	63	74
El Salvador	50	65	50	85	—	—	61	76
Guatemala	33	36	66	67	11	100	43	46
Honduras	7	8	25	30	—	—	20	22
Mexico	1,479	1,594	49	49	671	75	1,930	2,069
Nicaragua	16	16	—	5	30	—	43	46
Peru	200	210	84	81	352	67	390	400
Uruguay	285	285	38	38	50	—	285	285
Venezuela	335	380	25	22	495	40	500	550

Source: ECLA, on the basis of national statistics.

[a] Not including the 320,000 kW thermo-electric power station of San Nicolás, which was completed in 1956 but which did not enter into operation because of delays in the completion of the grid.

[b] This figure includes plants under construction, or on which work is about to begin and which are expected to be completed by 1958-60.

[c] Orders were placed for the construction of an 80.000 kW thermic power station in Santiago, which is not included in this figure.

intended for the capital because neither the transmission grid nor the inter-connexion plant was finished.[7] The gap between Argentina's potential demand for electricity and the available supply continued to widen in 1956; it is estimated that the projects in course of execution, even with the addition of those which are only at the preparatory stage, will prove insufficient to meet requirements. However, the Government took a very important step at the end of 1956, when it invited tenders for a thermoelectric plant in Greater Buenos Aires with a capacity of 600,000 kW, an unprecedented size for Latin America.

Supplies in Brazil improved. Four hundred and thirty thousand kW went into production, mainly in the Rio-São Paulo area, where demand reaches the highest levels in the country and where there has been a chronic electricity shortage in recent years. Moreover, abundant rainfall ensured a more regular flow of water for the hydroelectric plants. The Government launched a programme to increase installed capacity from the existing 3.5 million kW to 5 million by 1960; private capital, however, will probably contribute to its implementation.

In Mexico also there was some improvement in the energy supply. The *Comisión de Electricidad* brought some 80.000 kW into service, and private enterprise another 60,000 kW. Private entrepreneurs announced that they would initiate substantial expansion programmes as a result of the greater incentives provided by Government policy. New measures to ensure the execution of the national electrification programmes were studied.

Colombia suffered from a shortage of electricity in almost all the large towns. For various reasons, no vigorous impetus was given to the electrification programme in 1956, and only the public services expanded slightly. The resources at the disposal of the official organization responsible for carrying out the electric energy programme were not sufficient for progress to be made, as they had to be partly utilized for housing and irrigation. The minor lighting projects carried out in the smaller towns were of negligible significance within the country's total energy supply.

In Chile, there were no perceptible variations in relation to 1955. Productive capacity registered no substantial increases. The International Bank's loan of 15 million dollars will no doubt stimulate the implementation of the electrification programme, as the execution of the various projects was postponed during the past three years precisely on account of financing difficulties.

Neither did the situation change in Peru. In 1956 no large plants entered production, but programmes in course of execution progressed and others were begun, especially in the Greater Lima area, which continued to enjoy satisfactory energy supplies. The Government is offering incentives to private investment in electric energy projects. Important programmes were announced for the provinces, where the supply has hitherto been very inadequate.

In Cuba, Uruguay and Venezuela, work proceeded actively on programmes for the construction of new power stations, and there was no rationing of consumpti Central America is also awaiting the entry into operat of large projects which, in conjunction with those augurated in 1956, will improve a situation that from point of view of unit consumption is unsatisfactory, exc in Costa Rica, where great importance has been attac to electric energy and very high levels of utilization ha been attained.

A characteristic common to all the new electrificat projects in each country is the interest displayed in more efficient utilization of hydroelectric resources a the departure from the recent practice of meeting em gencies by means of small thermic plants, which can quickly installed at a comparatively low cost, but wh operational costs are much higher. In table 74 it can seen that 73 per cent of the capacity in process of insta tion at the end of 1956 was of hydroelectric origin. T corresponding figure in relation to the 1956 total was o 53 per cent.[8]

A new means of generating electricity and an extrem interesting experiment is geothermic energy, which w successfully tried out in Mexico. Steam was obtain from two wells drilled in the State of Hidalgo. The po and temperature of these wells are estimated to exce those of Larderello in Italy, where utilization of this ty of energy is the highest in the world. Mexico's *Comis* *Federal de Electricidad* authorized the purchase of t units totalling 25,000 kW for this experiment in t generation of geothermic electricity, the first of its kind Latin America. This resource is also to be found, and been studied, in the north of Chile where a large proporti of the country's electricity consumption is concentrat since this is the most important copper and nitrate-p ducing area.

V. INVESTMENT IN ENERGY AND ITS FINANCIN

The expansion outlined, which is designed to meet t growing demand for energy, is the result of investme comparable in volume to that recorded in 1955. Acco ing to a preliminary estimate, it would seem that in 19 the sum invested was very close to the preceding yea figure of 1,200 million dollars. As gross investment fixed capital in the economy as a whole—approximate 10,000 million dollars in the year in question—rose about 5 per cent in relation to 1955, the share of ener declined slightly in 1956, when it was about 12 per ce If a proportion approximately corresponding to that us for exports of crude is subtracted from the year's inves ment, about 800 million dollars at 1950 prices are left f Latin America's internal services. This sum represents little under 8 per cent of gross annual investment in t economy as a whole. Forty per cent investment for loc supplies was earmarked for petroleum and natural gas a the rest for electricity, with the exception of a very sma share for coal. As regards financing, the authorities we onsible for two-thirds and private enterprise for one-l. These proportions seem to have remained virtually same in 1956 as in 1955.

---

[7] Both will apparently be completed in the second half of 1957.

[8] In this connexion attention has already been called in previo *Surveys* to the case of Argentina. Hydroelectric plants represe only 13 per cent of the country's installed generating capacity a by implication less than 5 per cent of the economically utiliza hydroelectric resources, which a conservative estimate places some 10 million kW.

he characteristics of this rate of investment, as regards ı values on the one hand and composition and source he other, are basically the result of the official policy ch has been determining the course of development in sector in the various Latin American countries. In r to evaluate its real significance and possibilities, the tutional setting within which it has evolved must be ewed. This is of great interest in relation to events 956, since in some cases there were important changes, thers the choice of alternatives was difficult and in rs again a definite choice was made.

he basic principles governing energy development are ourse linked to prevailing politico-social trends, and vould be out of place to discuss them here. Yet erience suggests certain conclusions which may help orming an idea of the position.

he most important decision in energy policy is that rding the way in which responsibilities should be ded between the State and private enterprise. As the rse followed varies from one country to another, ording to whether the petroleum industry or electricity ices are concerned, these alternatives should be studied rately.

ı most of the petroleum-producing countries existing cies were reaffirmed. Colombia, Cuba, Ecuador, Peru Venezuela, which have offered facilities to private ital in all phases of the industry, increased the incen- s afforded to this type of investment, seeking to attract specially towards those geographic areas where the sibilities of finding petroleum are less well known. ombia also has a large State petroleum enterprise, set to manage the country's most important private con- ion when it was restored to the Government in 1950. 1956 this enterprise signed drilling contracts with ign companies which contributed capital for this pur- e.

o turn to those countries where the State plays an ve part in the petroleum industry, the State maintained monopoly in Mexico and Uruguay. Under the new ernments of Argentina and Brazil, State participation he industry remained predominant and new program- for future action were drawn up accordingly. Argen- devoted considerable attention to energy policy in the sitional stage through which the country's economy is sing, and the creation of a *Comisión Nacional de rgía* is under consideration. A specific programme reby fresh impetus could be given to the *Yacimientos rolíferos Fiscales* was prepared,[9] and this organization granted autonomy to facilitate its work on which the le programme for the expansion of the industry will based. This does not preclude YPF, in certain cases ı accepting the co-operation of private capital on a ice contract basis.

ı Brazil, the State enterprise is the only one which duces crude petroleum and which may establish new neries or transport domestically produced petroleum. Private capital collaborates only in the distribution of derivatives and operates some refineries set up before the creation of the State company.

Bolivia, on the other hand, finally approved the new *Código del Petróleo* for private concessions. This will put an end to the monopoly of all stages of this industry formerly held by *Yacimientos Petrolíferos Fiscales Bolivianos*.

In Chile too, the *Empresa Nacional del Petróleo* alone is responsible for the production and refining of petroleum, but the Government has presented a bill authorizing prospecting and exploitation throughout the country, except in the areas already being worked by the State organization at the present time.

The year 1956 witnessed growing Government interest in helping to improve electricity services; the important role which these services can play in over-all economic development and the serious nature of the problems created by the postponement of electricity undertakings were recognized.

In this connexion there is a manifest desire to revise energy tariff and sales price policies, so as to render the operation of this service more profitable and thus attract the private investor or make the development of the State services less dependent on the national budget.

Tariffs for electricity are far below over-all price levels in Latin America, especially in the countries where inflation is severe. Although this situation also prevails in many more highly-industrialized countries and is partly offset by improvements in the productivity of equipment through its timely renewal, the discrepancy is so great in many Latin American countries that it has completely discouraged private investment and is a very heavy drain on public capital.

While some Governments are maintaining an electricity policy favourable to public enterprise, others, in view of the magnitude of the task that lies ahead, are tending to seek the co-operation of private capital.

Brazil and Chile are examples of countries where the State has done important work in constructing electric power stations without neglecting to provide incentives to private investment in this sector. Ways and means are being sought to improve the financing of future Government programmes and at the same time to interest private capital in the building of power stations and in the distribution of the power produced by the State plants. The Governments of both countries are preparing amendments to the legislation at present in force with respect to electricity services and to impart greater flexibility to tariff systems so that they can be adjusted to increases in production costs and to the devaluation of the currency.

In 1956 Venezuela continued to pursue its national electrification plan, which is designed to supplement the inadequate private investment under this head. Under this programme, the *Corporación Venezolana de Fomento* is constructing plants and distribution grids which will then be operated by autonomous subsidiaries. Peru arranged for the preparation of a national programme whereby it hopes to promote and guide undertakings in this field, which up to now have been almost entirely in the hands of private enterprise in the principal consumer centres.

This organization produces about 84 per cent of Argentina's oleum.

Argentina rested greater responsibility in the State for the construction of electric power stations, which is in the hands of the organization known as *Aguas y Energía Eléctrica*. This enterprise was recently granted the autonomy necessary for the more efficient discharge of its functions.

Several Central American countries have also requested foreign firms of consultants to draw up electricity programmes, and it is hoped that their implementation, with the aid of public and private contributions, will substantially improve existing services.

International public loans for energy, although they represented a valuable contribution, only constituted rather less than 10 per cent of investment in domestic supplies in 1956. Latin America received 47.1 million dollars from the International Bank for Reconstruction and Development and 28.5 million from the Export-Import Bank. In 1955 the corresponding figures were 17.5 and 26.6 million dollars respectively.

Of the loans granted by the International Bank, the largest was one of 25.5 million dollars to the Uruguayan organization *Usinas y Teléfonos del Estado*; this sum was to be used for the Rincón de Baygorría hydroele power station, with a capacity of 103,000 kW. *Empresa Nacional de Electricidad S.A.*, in Chile, rece 15 million dollars for hydroelectric projects. Five mi and 1.6 million dollars were allocated to Ecuador Nicaragua respectively, to enable them to improve supply in their capitals.

The loans issued by the Export-Import Bank favou Brazil, which received in the aggregate 26.4 million do for the State enterprises of Minas Gerais and the *Comp* *hía Hidroeléctrica de San Francisco*. The remai consisted of loans to a United States electricity enterp for its installations in Colombia and Mexico.

Thus, in 1956, enterprises based on public capital ceived 97 per cent, or almost the whole, of the sums m tioned.

Up to December 1956 Latin America had receive total of 354.5 million dollars for energy from the In national Bank. Two-thirds of this sum was allocate public corporations. The Export-Import Bank's lo for the same purpose amounted to 185 million dollars which the public sector received only 44 per cent.

Part Three

TWO SPECIAL STUDIES

A. Preliminary study of the effects of post-war industrialization on import structures and external vulnerability in Latin America

B. Productivity of labour and land in Latin American agriculture

A. PRELIMINARY STUDY OF THE EFFECTS OF POST-WAR INDUSTRIALIZATION ON IMPORT STRUCTURES AND EXTERNAL VULNERABILITY IN LATIN AMERICA

I. INTRODUCTION.

HE EFFECT OF INDUSTRIALIZATION ON IMPORTS

ficient time has now passed since the end of the d World War for some effects of the industrialization ammes in Latin America to be seen more clearly hitherto. This enables light to be shed on the ion whether the economies of Latin American coun- in process of industrialization are tending to become vulnerable or less vulnerable to short-term fluctua- in foreign trade, such as the sudden worsening of t markets.

is is of course not the only question one could ask the effects of industrialization, and the special study follows is not to be considered in any respect a rehensive account of the effects of the industrializa- policies followed by Latin American countries, still comprehensive assessment of such policies. There is scussion here of how industrialization is affecting the of unemployment, or of its impact on average real nes. This study deals only with some foreign trade ts.

ll the question posed is an important one to countries ally dependent on foreign trade. Apart from all its effects, industrialization is the only way in which countries can lessen their dependence on exports, ndence being taken to mean the fraction of the na- l product arising from export industries. As will be however, unbalanced development may involve a growth in the level of certain essential imports, so in the final analysis, the economy is as much at the y of events overseas as ever—or even more so.

is study will deal first with the general process by industrialization is likely to affect the composition ports, as a preface to considering Latin America's ience. This process is a complicated one. Import itution through industrialization is rarely, if ever, lete, in the sense of entirely eliminating the need for rts. Much more commonly, it is various stages of facturing that a country takes over. For example, ntry "manufacturing" its own shirts may at first ly be tailoring cotton cloth which is still imported; it may make its own cloth out of imported yarn; and y it may establish its own spinning industry, by which it will only be importing raw cotton (unless, of course, pens to produce cotton itself). In the case of a com- ed engineering product, such as a motor car, the pos- ies for import substitution are usually fewer, since manufacture of complex sub-assemblies, such as -plugs or pistons, are uneconomic on a small scale even if these are produced locally, it is necessary to import at least some of the numerous metals and textiles that go into the production of the modern motor car. The machinery needed nearly always has to be imported (including of course replacements), and often the fuels required have also to be brought in from abroad. "Import substitution" therefore really consists in lowering, rather than removing, the import content of supplies on the home market; and what in essence happens is that local labour is substituted for foreign labour in some of the processing stages.[1]

Raw materials for manufacturing, although they cost less than the finished products they replace, are often economically much more important. It is one thing to import fewer cars: the consequences of this are, at least over the short term, unpleasant only for the small group of those who sell new cars and those who want to buy them. A reduction in the imports of raw materials for an established car manufacturing industry is, however, something far more serious. Factories unable to obtain raw materials are forced to lay off part of their labour, causing incomes and employment to fall, and this recession is not likely to be confined to the industry in which it started.

Governments of countries with large secondary industries are therefore obliged to give priority to the needs of established industries for raw materials to keep their factories operating, when they are unable to allow importers to purchase foreign exchange freely. They cut other imports, or at least prevent their rapid growth, rather than reduce the (rising) imports of raw materials for their new industries. The process of industrialization itself tends to induce a slight shift to raw materials in the composition of imports, because it involves, by definition, a faster rise in manufacturing than in other types of output.[2] But the shift is often speeded up by such "selective" controls as import quotas for different commodities. Even a "global" measure to deal with a deficit in foreign transactions, like devaluation, which raises the internal price of all imported commodities indiscriminately, has however a smaller effect on the prices of finished goods manufactured locally from imported raw materials, than on the prices of goods imported in a fully manufactured condition.

Imports of raw materials are therefore likely to rise at a faster rate than imports of finished goods, and the slower the rise in the capacity to import, the greater the divergence is likely to be.[3]

---

[1] This over-simplifies the question of course. Import substitution also affects incomes and therefore the demand for goods, both imported and locally produced. This study, however, is only concerned with the first-stage effects.

[2] It is assumed here that imports of raw materials rise parallel to manufacturing output, but that other types of imports rise more slowly than this (e.g., at the same rate as the rise in the national product, or not much faster).

It is of course true that, in the long run, imports of raw materials may fail to rise parallel to industrial output. Less imported raw materials may be used for each unit of manufacturing output. Such a fall in the import content of local manufactures tends to reduce the share of raw materials in imports. This happens where industrialization is a "vertical" rather than a "horizontal" process—for example, if the first industries set up are industries for processing semi-manufactures, and these later start to produce the semi-manufactures themselves from raw materials, or at least materials nearer the raw state. This effect, however, is likely to be only a gradual one, insufficient to outweigh the tendency for imports of raw materials to rise in relation to other imports, except in cases where manufacturing is not growing much faster than the national product and where the composition of the industrial sector is nevertheless changing rapidly and changing in this particular way. (It will be seen below that Mexico constitutes one such exception in the region.)

In order to study recent trends in imports in Latin America, the period between 1948-50 and 1954-55 was chosen. The base years are 1948-50, which fall between the immediate aftermath of the Second World War and the most active phase of the price inflation engendered by the Korean hostilities. (It is true that 1949 was a year of recession for many Latin American countries, but the effect of this is largely obviated by using data for two relatively prosperous years as well, 1948 and 1950.) The period ends with 1954-55, which is late enough to avoid most of the economic effects of the Korean hostilities, but sufficiently far back for economic data to be fairly complete. (Single years would not be suitable because of the possibility of, for example, an unusually bad or good harvest, or large inventory fluctuations.) In order to show trends, the annual average imports of the first period are compared with the annual averages of the second, all figures being expressed in terms of 1950 United States dollars, in order to eliminate price differences (both as between one country and another, and as between the first period and the second), and thus allow the analysis to be undertaken in "real" terms. It will be appreciated, however, that price deflation inevitably involves a margin of error, and that the results are therefore approximate.[4]

Taking Latin America as a whole, imports of "materials"[5] rose a good deal faster over the period between
1948-50 and 1954-55 than total imports, namely by 38
cent as against 25 per cent, and the remaining imp
i.e., finished goods, rose by only 17 per cent. This di
ence is much larger than could be accounted for merel
the natural process of substituting imports of "materi
for imports of finished products. In fact, if foreign
change did not limit imports, one would expect the
ports of finished goods to rise rapidly also, even duri
period of industrialization. The requirements of mac
ery are great, and the demand for imported consu
goods is stimulated by foreign films and periodicals.

The widespread shortage of foreign exchange is an
ditional reason. The rise in total imports (25 per c
was less than the rise in the total domestic product
per cent). No doubt the small difference between t
could be attributed to statistical error. But a larger
would be expected in imports than in the total regi
output, if allowance is made for the region's moun
needs of both materials and finished goods. Indus
output rose by roughly 32 per cent for the region
whole.[6] What happened therefore was that the struc
of imports was slewed round as a result of the forces
rapidly rising demand for imports operating agains
relatively static ceiling imposed by the shortage of for
exchange.

The shortage of foreign exchange was due fundam
tally to the failure of the volume of exports to expa
Exports rose by only 10 per cent for the region as a wh
between periods which can be taken to be six and a
years apart. Moreover, this rise, small as it was, car
attributed almost entirely to increased exports of pe
leum from Venezuela. The fact that other countries co
expand their imports at all is due primarily to the impro
ment in the terms of trade, which was supplemente
some cases by more tourist income and a greater inflo
capital.[7]

The process of industrialization can also involv
change in the composition of imports on another plan
as between consumer goods and capital goods.[8] Wit
growing population and rising real incomes, the dem
for food rises steadily. The increase may be moder
because usually only a rather small fraction of a ris
income is spent on food, but it may none the less h
grave effects. The supply of nationally produced f
may decrease as a result of the movement of workers fr
the rural areas into the towns, or a diversion of cap
towards manufacturing industry, or fiscal policies or p
controls that discriminate against the rural areas.[9]

---

[3] Of course industrial output has to be a reasonably large fraction of the national product (say over 10 per cent) for this divergence to be noticeable. Countries already to some extent industrialized, but not experiencing a further change in the composition of national output, will also tend to show the same sort of shift in imports, if total imports fall relative to the domestic product.

[4] The procedures involved in deflation, and the possibilities of error, are discussed in the Explanatory Note.

[5] For a full list of what is covered by "materials" see the Explanatory Note. Briefly, imports are considered "materials" if they are goods which are usually subject to substantial further processing before reaching the final consumer. They thus include semi-manufactures, as well as raw materials. It will be appreciated that this criterion is not sufficiently precise for the boundary between "materials" and "finished goods" to be determined exactly, but also that the position of the boundary is not sufficiently vague for the main trends shown here to be sensitive to any changes that could plausibly be made in it.

[6] It will be noticed that imports of "materials" apparently
by more than industrial output. This may mean that the im
content of the region's manufactures rose, but it may also be
either to inventory fluctuations or to statistical error. (
coverage of the production index is not complete, and some of
component national indices are less reliable than others).

[7] Latin America's total capacity to import in fact expande
more than imports. Some countries used part of the increa
income from abroad to increase reserves (e.g. Mexico) or to pay
trade debts (e.g. Argentina and Brazil).

[8] Provided "consumer goods" include also materials for ma
consumer goods, as they do in this analysis, and similarly
capital goods, total imports can be entirely reclassified into t
two categories, which cut across the categories "materials"
"finished goods".

[9] Under some conditions this can also discourage export
primary commodities.

circumstances, it is not easy to stop a certain increase od imports, and it is exceedingly difficult to reduce , particularly if imported foods, for example wheat sugar, have become staples in the population's diet.

e demand for other consumer goods is likely to be ted by the expansion of urban incomes. Although igher demand for textiles can often be largely met by expansion of domestic industries (and when foreign ange is scarce, imports of clothing can be reduced out great hardship), this is not usually true in many r cases. The process of industrialization often bene- articularly the urban middle classes, and in all coun- they have acquired the taste for imported goods, cially cars. Governments short of foreign exchange generally, if they have effective control over imports, ent money being wasted on luxuries, but one con- r good is usually unresponsive to all forms of pressure, omic or administrative. This is fuel. (Fuel is con- ed here a consumer good, because so much of it is r bought directly by consumers or used in the pro- ion of consumers' goods and services, such as public sport.) The growth of towns means the growth of and rail transport—both passenger transport to take le about their business and goods traffic to enable and country to exchange their products. The author- administering import restrictions always find it very cult to economize substantially on imports of fuel, h tend therefore to rise relative to other imports.[10]

nports of capital goods also tend to rise in a period of strialization, but whether the proportion of these in l imports increases is another matter. This depends wo factors. In the first place, it depends on whether stment is rising more rapidly than total domestic nditure. Even if investment is increasing fast, it not outstrip other forms of expenditure during a od of development. Secondly, this proportion is cted by whether an increasing proportion of invest- t expenditure is attributable to imported capital ls. This depends in turn partly on trends in the com- tion of investment, for investment in equipment has uch higher import content than construction, and ly on the degree of import substitution achieved in the luction of particular sorts of capital goods. It ought to be forgotten that changes in the fraction of con- ption expenditure attributable to imports will also ct the proportion of capital goods in total imports. outcome of these various influences depends very h on local circumstances, but there are a number easons why consumer goods imports may rise faster than the imports of capital goods. This may be because of the rising demand for imported consumer goods, discussed above, or because import substitution can be more complete in the case of industries producing building materials (in view of the wide prevalence of soils suitable for making bricks and cement). On the other hand there is a strong tendency in the most industrialized countries for the demand for equipment to rise in a period of rising incomes.

A powerful factor in practice is that Governments operating import controls are often driven, by the pressing demands of consumers, to refuse permits for imports of new equipment, or even of replacements for machinery, since in many cases such a step is not disastrous over the short term. (Of course before very long this restriction of capital goods imports seriously hinders the rate of growth.) Furthermore, general measures adopted in foreign exchange crises, such as devaluation or deflationary policies, are likely to involve a bigger reduction in investment with a high import content, namely investment in equipment for industry and transport—devaluation because of the consequent increase in the price of such goods, and deflation because it particularly discourages this type of investment.

Taking Latin America as a whole, there was a slower rise in imports of capital goods than of consumer goods between 1948-50 and 1954-55—18 per cent as against 29 per cent.[11] Investment has not in fact risen at a very different rate from the total product: tentative estimates suggest that the rise in investment was about 28 per cent as compared with the rise of 27 per cent in output. What has happened has been a decline in the import-intensity of investment. One partial explanation is that in 1948 some countries were still buying foreign capital goods which had been scarce during the Second World War and the years immediately after. But in several countries—and therefore for the region as a whole—the main reason is that the structure of inputs was slewed on this plane (capital goods/consumer goods) as on the other (finished goods/materials), as a result of a rapidly increasing demand for consumer goods and the limit set by the slow expansion of the capacity to import.

II. CHANGES IN THE STRUCTURE OF IMPORTS OF VARIOUS GROUPS OF COUNTRIES

The arguments advanced in the introduction should not merely be true for the region as a whole. The changes in the structure of imports, on both planes (materials/finished goods and consumer goods/capital goods) should be shown by countries in process of industrialization, but not by others; and, within the former class, the movements in imports of different types should diverge more strongly for the countries where the volume of imports has increased least.

The countries of Latin America have accordingly been divided into four groups to enable the analysis to be taken a stage further.

First the countries in process of industrialization were

The increased demand for consumer goods can be considered, one point of view, as a further way in which import substitu- fails to be complete. When local industry takes over the ufacture of a commodity, against the apparent savings of orts must be set not only imported materials, but also food and other consumer goods which may now have to be orted to meet the requirements of the new members of the ufacturing labour force. This is part of the import content cally produced goods which tends to be overlooked, even by e familiar with input-output techniques because of the con- ion that labour is a "primary input", in the sense of an input tself requiring further inputs. The magnitude of the induced ease in imports of consumer goods depends primarily, in the nce of exchange control, on the marginal propensity to save also on the marginal propensity to consume local products (as nst imports).

[11] For definitions of the coverage of "capital goods" and "consumer goods", see the Explanatory Note.

separated from the remainder.[12] Then, within the countries which are being industrialized, groups were formed according to the rate of increase in imports during the period of the study. The classification is as follows (the percentage increase in volume of imports over the period is shown in brackets):

Class A. Countries in process of industrialization

(i) *With imports stationary or falling*
  Argentina (−22)
  Cuba (1)

(ii) *With imports increasing moderately* (less than 50)
  Chile (23)
  Venezuela (27)
  Brazil (35)
  Mexico (40)

(iii) *With imports increasing rapidly* (over 50)
  Uruguay (53)
  Peru (65)
  Colombia (88)
  El Salvador (102)
  Ecuador (146)

Class B. Other countries

Bolivia, Panama, Haiti, Paraguay, Guatemala, Honduras, Dominican Republic, Costa Rica, Nicaragua.

An examination of the ways in which each group of countries used their increased capacity to import between 1948-50 and 1954-55, in respect of materials and finished goods, gives the results shown in table 75.

Table 75 shows first that total imports increased relative to gross output in the last two groups of countries—groups in which import restrictions were much less common. This suggests that a high fraction of increased income is spent on imports, when importation is free. In the first group, because of the deterioration in foreign exchange reserves, imports were reduced, although gross output rose somewhat. In the second group, imports rose about parallel to output, but in every case there were special influences, tending to restrain them. In Chile and Brazil, import restrictions were severe; in Mexico, impo were discouraged by a big devaluation of the peso; a the increase in the case of Venezuela would have b much larger but for a fall in oil company imports.

The most important implication of table 75, howe is that the change in the import structure depended f on whether a country was undergoing industrializati and secondly on the extent to which total imports r There was little change in the composition of the impo of the unindustrialized group—indeed, in as far as th was a difference, imports of finished goods increased faster. In all categories of partially industrialized co tries, however, imports of materials increased m rapidly. The countries with declining or stationary ports made their reduction only in finished goods;[13] th with moderately expanding imports increased the impo of materials more than twice as rapidly as other impo and only in the case of countries with steeply rising ports were the increases in the two categories of impo more nearly parallel. Since these last countries suffe least severely from foreign exchange difficulties, the dif ence in this case presumably reflects the import substi tion which was being achieved in various lines.

It should not be thought that this is a case where gr averages are misleading, because they are affected by or two large countries and (perhaps) do not represent majority. On the contrary, the rise in the share of ma rials holds for ten out of the eleven countries in proces industrialization. In eight countries, imports of mater rose faster than imports of finished goods; and in imports of finished goods fell while imports of mater rose (Cuba) or were unchanged (Argentina). Mexico the only exception.[14] On the other hand, of the nine industrialized countries, seven showed relatively grea increases in imports of finished goods than of materi

These results can be seen from another point of view: examining what has happened to the percentage wh finished goods form of total imports in each group. greater the difference between the rates of increase imports of materials and of finished goods, the greater change in this percentage[15] (see table 76).

Table 75. Percentage changes in annual average real imports and domestic product, 1948-50 to 1954-55

	Imports of materials	*Imports of finished goods*	*Total imports*	*Domestic output*
A. *Countries in process of industrialization*				
(i) With imports stationary or falling . .	1	−28	−15	10
(ii) With moderately increasing imports . .	52	23	33	36
(iii) With rapidly increasing imports	95	68	79	33
B. *Other countries*	39	48	43	21
Latin America	38	17	25	27

---

[12] The criterion is that industrial output is already significant, or that it has been increasing relative to the domestic product over the period of the study. Ecuador and El Salvador are included because, although their industries are at a relatively low stage of development, and mostly handicraft, they have grown rapidly in recent years.

[13] The results for the first group reflect, of course, mainly experience of Argentina.

[14] See section V on Mexico.

[15] This calculation is also made on the basis of figures in te of constant dollars at 1950 prices, not on the basis of current p figures.

e 76. Finished goods as a percentage of total imports, 1948-50 and 1954-55

	1948-50	*1954-55*
untries in process of industrialization		
i) With imports stationary or falling	56	47
i) With imports increasing moderately	67	62
i) With imports increasing rapidly .	62	58
her countries	69	70
America	62.9	58.7

analysis of the pattern of imports classified by end-ves the results shown in table 77.

le 77 illustrates the other effect of industrialization e structure of imports. Once more the unindustrial-ountries show a different trend from other countries, imports of capital goods increasing in the former ly faster than total imports. And once more, within ndustrialized countries, those able to expand their ts least show the biggest relative increase in con-r goods.

re again, what applies to groups of countries applies nearly every individual country. Out of the eleven ries which are being industrialized, seven show a r relative rise in imports of consumer goods than of l goods, and two (Cuba and Chile) a fall in imports pital goods while imports of consumer goods rose. ay is the only exception, and even this is statistically ful.[16] On the other hand, four of the nine countries are almost completely unindustrialized show rela-greater increases in imports of capital goods.

possible explanation for the difference between the s in imports of capital goods and total imports is that reflect mainly the differences between the trends in tment and in total output. The last two columns of 77 show, however, that this argument will not hold . In the first group of countries, the decline in rts of capital goods was far greater than the decline tal investment, and in the second group imports of al goods rose by much less than did investment. d, since imports of consumer goods rose by more than total output for this group of four important countries, the implication is that rising consumer demand tends to spill over into imports, even where foreign exchange is short. This was especially marked for Chile and Mexico. In the third group of countries, the rise in investment was proportionately much greater than the rise in domestic output, mainly because of a construction boom in some members of the group, but this did not cause imports of capital goods to increase faster than other types of imports. However, it offset the expected tendency for imports of capital goods to rise more slowly than other imports (a tendency that would in any case be weaker for countries with a rapid increase in the capacity to import), and imports of capital goods rose at nearly the same rate as total imports. Only in the last group was the faster rise of investment than of consumption reflected in a faster rise in imports of capital goods than of consumption goods. Examination of movements in domestic output and investment tend therefore to confirm the arguments advanced above.

The consequence of the difference between the increases of imports of capital goods and of consumer goods was that the percentage which capital goods formed of total imports changed (see table 78).

Table 78. Capital goods as a percentage of total imports, 1948-1950 and 1954-55

	1948-50	*1954-55*
A. *Countries in process of industrialization*		
(i) With imports stationary or falling	37	34
(ii) With imports increasing moderately	48	44
(iii) With imports increasing rapidly .	45	44
B. *Other countries*	27	28
Latin America	42.6	40.4

The slewing effect in two dimensions can best be compared by the use of two-way tables showing, for each group of countries, a cross-classification of imports by stage-of-production and by end-use (see table 79).

It will be seen that, if figures for Argentina and Cuba are added together, there was a sharp fall in the percentage of total imports accounted for by both types of finished goods, consumer and capital, and a rise for materials, whether ultimately destined for consumption or for capital

Table 77. Percentage changes in annual average real imports, investment and domestic product, 1948-50 to 1954-55

	Imports of consumer goods	*Imports of capital goods*	*Total imports*	*Capital invest-ment*	*Domestic product*
A. *Countries in process of industrialization*					
(i) With imports stationary or falling	−11	−23	−15	−2	10
(ii) With moderately increasing imports	43	21	33	48	36
(iii) With rapidly increasing imports	81	75	79	58 [a]	33
B. *Other countries*	38	49	43	60 [a]	21
Latin America	29	18	25	28	27

[a] These figures are subject to greater error than the others in the table.

---

mports of consumer goods into Uruguay rose by 51 per cent, capital goods by 54 per cent. This discrepancy would be margin of error due either to the use of average value in-or to inappropriate classification (see the Explanatory Note).

investment. This means, of course, that looking along the other axis of the table, the fall in the percentage devoted to finished consumer goods partly offset the rise in the percentage devoted to materials for consumer goods. There was not therefore a big rise in the percentage of total imports represented by consumer goods. The change in the import structure, which we are entitled to call the distortion in the structure for countries unable to afford an increase in imports, was much less when classified by consumer goods/capital goods than by finished goods/materials. (It should be borne in mind that the results for this group of countries are dominated by figures for Argentina: in the case of Cuba there wa much slighter change in the import structure and occurred about equally on both planes.)

Table 80 shows that, in the second group of countr the important change was that finished capital go declined relative to materials for consumer goods. Th was therefore a change along both axes, of about the sa magnitude, towards consumers' goods, on the one ha and towards materials, on the other.

Table 79. Countries in process of industrialization with imports stationary or falling: Structure of imports, 1948-50 and 1954-55

(Percentage analysis of total imports)

	Finished goods		*Materials*		*Total*	
	1948-50	*1954-55*	*1948-50*	*1954-55*	*1948-50*	*1954-55*
Consumer goods	33	31	29	35	63	66
Capital goods	22	16	15	18	37	34
Total	56	47	44	53	100	100

Table 80. Countries in process of industrialization with imports increasing moderately: Structure of imports, 1948-50 and 1954-55

(Percentage analysis of total imports)

	Finished goods		*Materials*		*Total*	
	1948-50	*1954-55*	*1948-50*	*1954-55*	*1948-50*	*1954-55*
Consumer goods	29	28	22	28	52	56
Capital goods	38	34	11	10	48	44
Total	67	62	33	38	100	100

For countries of the third group (see table 81) there were slight shifts towards raw materials both within imports destined for consumption and within those destined for capital investment, as for the first group of countries. Although this shift to materials was therefore more important than the shift to consumer goods, for this group as for the first, both shifts were a good deal less pronounced.

Table 81. Countries in process of industrialization with imports increasing rapidly: Structure of imports, 1948-50 and 1954-55

(Percentage analysis of total imports)

	Finished goods		*Materials*		*Total*	
	1948-50	*1954-55*	*1948-50*	*1954-55*	*1948-50*	*1954-55*
Consumer goods	28	27	27	29	55	56
Capital goods	34	31	11	13	45	44
Total	62	58	38	42	100	100

Group B, consisting of unindustrialized countries (see table 82), shows only very slight changes, in the opposite direction to these shown for Group A countries. It is interesting to note how different is the structure of imports for such countries, as compared with the industrialized countries, half their imports consisting of finished consumer goods.

Table 82. Unindustrialized countries: Structure of imports, 1948-50 and 1954-55

(Percentage analysis of total imports)

	Finished goods		*Materials*		*Total*	
	1948-50	*1954-55*	*1948-50*	*1954-55*	*1948-50*	*1954-55*
Consumer goods	50	50	22	22	73	72
Capital goods	19	20	8	8	27	28
Total	69	70	31	30	100	100

The figures for the countries in group B are of little account so far as the total Latin American import structure is concerned: all nine of them together represent less than 10 per cent of the region's imports. The results for the region as a whole (see table 83) therefore reflect mainly the figures for countries in process of industrialization, especially the second group, which accounts for close to half the regional total. The shift towards consumer goods was much slighter, however, for the region than the shift towards materials, because it was less marked in the first and third groups.

Table 83. Latin America: Structure of imports, 1948-50 and 1954-55

(Percentage analysis of total imports)

	Finished goods		*Materials*		*Total*	
	1948-50	*1954-55*	*1948-50*	*1954-55*	*1948-50*	*1954-55*
Consumer goods	32.1	30.5	25.2	29.0	57.3	59.5
Capital goods	30.9	28.5	11.8	12.1	42.7	40.5
TOTAL	63.0	58.9	37.0	41.1	100.0	100.0

ANALYSIS BY COMMODITY CATEGORIES

viously the analysis has been conducted in terms of a e two-by-two classification: consumer goods/capital and materials/finished goods. The next stage is to in more detail, by broad categories of commodities n each of the classes used so far. This will make it ble to explain further what has been happening to the t structures of the four groups of countries. Nine categories of imports are used by ECLA, but they been sub-divided for the purpose of this analysis fourteen. Each can be broadly allocated either to shed goods" or to "materials", and they can also be described either as "capital goods" or as "con- r goods".

is section of the study deals first with the categories can be considered "finished goods", and shows which ories are responsible for the changes already dis- d in these imports, for each type of country. The ining categories are similarly examined to explain ovements in total imports of "materials" for each try group. The fourteen categories are then re- ged to enable changes in imports of capital goods, inally of consumer goods, to be analysed in the same

1. FINISHED GOODS

Table 84 brings out sharply the inflexibility of imports of food and fuel for countries suffering from a shortage of foreign exchange. The two countries in the first group economized substantially in all other categories of finished products.

Argentina achieved only a very small cut in imports of foods that do not require further processing, and this was in spite of the complete substitution of local tea for imported. In Cuba, imports of foodstuffs rose slightly despite a good deal of import substitution (e.g. potatoes, rice and coffee). Elsewhere experience was more varied. Such imports doubled for Chile and Mexico in the second group. (However, the 1948-50 levels were rather low, and the rise was due to increases in particular products such as powdered milk for Chile and maize for Mexico.) There was a small rise in Brazil and a slight fall in Venezuela (where import substitution was almost complete for rice and refined sugar). The average for the third group is brought down by Uruguay, where imports fell (partly because of increased domestic refining of sugar), whereas imports of such goods into Colombia and El Salvador trebled. There was a fairly large rise for the unindustrialized countries as well.

Table 84. Latin America: Percentage changes in annual average real imports of finished goods,[a] by commodity class and country group, 1948-50 to 1954-55

	Food	*Clothing*	*Other non-durables*	*Consumer durables*	*Fuel*	*Capital equipment*	*All finished goods*	*All imports*
Group A. Countries in process of industrialization								
(i) With imports stationary or falling	—	−68	−26	−33	1	−39	−28	−15
(ii) With imports increasing moderately	28	−47	33	−12	82	20	23	33
(iii) With imports increasing rapidly[b]	41	15	43	113	124	64	68	79
Group B. Other countries[c]	50	32	42	40	44	52	44	43
Latin America[b c]	22	−23	14	3	58	15	17	25

[a] For the definition of "finished goods" and details of the coverage of each category see Explanatory Note. "Food" means here broadly food that does not require much further processing. "Fuel" excludes crude petroleum.

[b] Excluding Ecuador from the three first columns.

[c] Excluding Paraguay from the three first columns.

Clothing offered the greatest possibilities of import substitution for the countries suffering from exchange difficulties. In Argentina and Brazil, imports of finished textiles were almost completely eliminated by 1954-55, the decline being well over 90 per cent in both cases, though in Argentina this was partly due to a decline in consumption, as well as to the development of local weaving and tailoring industries. Taking the first two groups together, imports of finished textiles declined by 77 million dollars[17] over this period, and this occurred despite a rise in the total consumption of clothing. In all the remaining countries (with the exception of Uruguay and Bolivia), imports of clothing increased, but these increases were not enough to offset the big declines in other countries, so that there was a marked fall in the regional total.

Taking all other non-durable finished goods together, these show a rising tendency of much the same magnitude as in the case of total finished goods (except that the average rise for the third group is brought down by Colombia where such imports declined). These goods are a mixed collection, and most of them do not permit a great deal of substitution. One important item is pharmaceuticals, imports of which rose very rapidly in nearly all countries, even in Argentina, though there the rise was outweighed by enforced reductions in other lines.

In the case of consumer durables (of which cars are a major element) the possibilities for reduction of imports have been very much greater. There has not been, as there has for clothing, much import substitution, but consumption can be reduced by import restriction. In Argentina and Brazil, imports of this sort were reduced by over 50 per cent, the total reduction for these two countries being in fact nearly 100 million dollars. On the other hand, in a period of boom, there tends to be a large increase in these imports, and there also appears to be a strong upward long-period trend in them, if foreign exchange supplies permit. It is interesting to note that, in Cuba, which was suffering a conventional type of recession and made no attempt to control imports, this category was responsible for an increase in imports. The fall in the second group was mitigated by a large increase of such purchases by Venezuela; and in the third group, Peru, Colombia and Ecuador all more than doubled their imports of consumer durables. For the region as a whole, such increases and declines more or less balanced.

Imports of fuel ready for use (i.e., excluding crude petroleum) tended to rise very sharply in most of the countries in process of industrialization. Only where domestic refining capacity was being rapidly extended, namely in Argentina, Cuba and Uruguay, was a big rise in imports avoided. In the case of Argentina, and therefore the first group, part of the explanation for the stability in imports lies also in reduced imports of coal. Even in cases where new refining capacity was being established (Chile and Brazil), imports rose by over 70 per cent. Notable increases in the category were shown by the same countries in the third group as made big increases in imports of consumer durables (both reflect the expansion of motoring)—Peru, Colombia and Ecuador—and also by El Salvador. In fact consumption of refined petroleum has generally tended to rise ve greatly, causing the region as a whole an increase in i ports far greater than for any other finished product

Capital equipment showed a much less buoyant dema in the countries in process of industrialization. Inde in all eleven cases, imports of finished capital goods clined relative to total imports, even in countries enjoyi a substantial expansion in the capacity to impo Argentina and Cuba actually reduced imports of capi equipment. Countries in the second group made increas which where slight, but imposed on top of levels alrea high. (In 1948-50, equipment accounted for over h the imports of finished goods for each of these four cou tries.) Countries in the third group made increases var ing from 40 per cent (Uruguay) to over 100 per ce (Ecuador). There were large increases in many unindu trialized countries as well. The increase for the regi was kept to a fairly small proportion, however, by the f in Argentina (previously one of the three biggest impo ters).

Looking at finished goods as a whole, it seems tha although the first two groups of countries were unable reduce imports of foods and fuel, they did manage to c imports of consumer durables and clothing, and to redu (or check the rise in) imports of capital equipment. O the other hand the third group was able to afford b increases not merely in fuel and food, but also even bigg ones in consumer durables and capital equipment. Th unindustrialized countries show little difference betwe the categories, and therefore little change in the pattern their imports of finished goods, on the average.

Still the first two groups dominate the region's import and the change in the regional pattern therefore reflect with some modification, their experience. The limite rise in total Latin American imports of finished goods ca be seen to be mainly due to three developments: to th import substitution achieved by the first two groups i clothing, and to the restraints they imposed, first o imports of consumer durables and secondly on those equipment.

2. MATERIALS

Table 85 brings out the limited extent to which saving have been achieved in materials, especially in cru petroleum, metals and materials for consumer goo industries (other than textiles and food).

The case of food is rather complicated. Substanti savings were achieved in the first group (mainly because the rise in local output of tobacco in Argentina). Mexico al succeeded in importing less foods requiring processin because of the expansion of agricultural output, especial of wheat.[18] The other countries of the second group, ho ever, registered large increases in imports of food that w not ready for use, and the group total shows a rath heavy increase. Brazil increased wheat imports su stantially, although domestic production doubled. Si larly, although Chile commenced local production sugar, and has been traditionally a big wheat produce the rise in local output was not nearly enough to keep pa

---

[17] The prices used are expressed in terms of 1950 dollars.

[18] See Statistical annex, table VIII.

Table 85. Latin America: Percentage changes in annual average real imports of materials,[a] by commodity class and country group, 1948-50 to 1954-55

	Food	*Textiles*	*Other consumer materials*	*Crude petroleum*	*Metal materials*	*Building materials*	*All materials*	*All imports*
Group A. Countries in process of industrialization								
(i) With imports stationary or falling	−25	−26	3	81	27	−40	1	−15
(ii) With imports increasing moderately	42	3	76	. . . [b]	29	22	52	33
(iii) With imports increasing rapidly [c]	60	9	143	200	82	126	96	79
Group B. Other countries [d]	26	−2	65	—	32	48	38	43
Latin America [c d]	33	−9	52	195	34	20	38	25

[a] For definition of "materials" and details of the coverage of each category see Explanatory Note. "Food" here means food requiring further processing.

[b] Refining was commenced only during this period.

[c] Excluding Ecuador from the first three columns.

[d] Excluding Paraguay from the first three columns.

ocal demand for either of these products. In other the rise in imports of this type of food was moderate, nparison to imports generally. Taking all countries her, imports of such foods increased more than im- of foods already processed. However, this was y due to the increase of one commodity in one ry—wheat in Brazil. Moreover, the dividing line is what arbitrary in the case of food, and the amount of processing involved in the case of most of these is small, so that this particular comparison is not significant.

tiles (which include spun as well as raw products) a balance between two forces. Imports tend to in- because of the rapid and extensive import substitu- n the clothing industries and the growth of clothing mption, but in many countries these tendencies are eighed by the development of local cotton-growing nning. Argentina and Brazil show net declines be- of heavy import substitution in the earlier, as well e later, stages. Imports of textiles also declined in so there was a marked decline for the first group. ugh there was some import substitution in spinning) and growing (Venezuela) moderate increases oc- d in most countries of the second group, enough to eigh the effects of the decline in Brazil. In the third , there was a sharp increase in the case of Uruguay cting import substitution in the processing stages), his was nearly balanced by a decline in Colombia, due e promotion of cotton-planting there. Since other ges were small, this group of countries does not show of a rise in imports of this sort (as it does for nearly her imports). The unindustrialized countries also very little change. So the total effect is a slight de- for the region, due to the decline in the first group of tries (and approximate stability in other groups). decline was not nearly as large as the decline in rts of clothing.

ports of materials for other consumer industries uding metals) tended to be buoyant over this period wide variety of reasons. (Important items included are crude chemicals, fertilizers and newsprint.) 85 shows that the rise in this category was higher that of total materials, food or textiles, for each of the four types of country. The rise was especially large for the second group (in relation to other imports). In most industrial countries, imports of this sort about doubled, and in Argentina, where they fell only slightly, the consequence was a good deal of unemployment. Many of these materials, which account now in the aggregate for nearly twice as much as food and textile materials added together, are difficult to produce locally for countries in process of industrialization. For example, only in Argentina and Chile did domestic output of newsprint increase, and for the region as a whole 83 per cent of requirements were still imported in 1954-55 (see annex, table X). Yet, the demand for such imports grows rapidly in countries developing their manufacturing industries, and, since fertilizers are included, imports of this type will also respond to agricultural development.

The sharp increase in imports of crude petroleum reflects the growth of refining in five countries where local output of crude has fallen behind the needs of the refiners (see annex, table IX). These five include both of the first group (Argentina and Cuba), and this explains the rather surprisingly high increase for a group which was otherwise mainly reducing imports. In 1948-50, none of the second group were refining imported petroleum, but by 1954-55 refineries were firmly established in Brazil and commencing operations in Chile.[19] The figure for the third group reflects only the experience of Uruguay, which produces no crude petroleum and trebled its imports over the period.[20] The increase for Latin America as a whole looks very large, but amounts only to $107 million, because the level in 1954-55 was so low.

Imports of metal materials rose moderately for the countries of the first two groups. Import substitution in iron and steel continued in all these countries (see annex, table XI), but only in Chile did it cause a net reduction in imports. The reduction there covered the whole range of iron and steel semi-manufactures (imports of wire and tinplate being virtually eliminated). In the other countries of these groups, reductions were achieved in certain lines only: Argentina, for example, reduced imports of wire considerably, but increased imports of other semi-manufactures, despite higher local output, and also of pig iron. In the countries of the third group, total imports of metals rose rapidly—by some 50 per cent in the case of Colombia, and by 100 per cent or so in the other cases, but the rise was from low levels. The increase was small, both relatively and absolutely, in most of the unindustrialized countries. This is a case, therefore, where the increase for the region (a moderate one) was not merely an average, but also reflected the experience of most countries.

---

[19] Mexico and Venezuela have of course expanded refining capacity, but naturally did not need to import petroleum for the purpose.

[20] Other countries in this group used local petroleum in their refineries.

Of all materials, those used in building show the sharpest contrasts. They fell in Argentina and Chile and rose only moderately in Cuba, Mexico and Venezuela. One reason in the first two cases was that capital investment fell, but in all these countries there was extensive import substitution, particularly in cement. Imports of cement had already been practically eliminated in Chile and Mexico, and local production was greatly increased during the period in Argentina, and especially Venezuela (which became almost self-sufficient despite a big rise in consumption) (see annex, table XII). There was a big increase in cement imports in Uruguay, however, where local output failed to expand. Ecuador and Peru also had to raise imports to meet the heavy demand. Import substitution was less common for other building materials, and imports rose considerably throughout the region, especially in the third group. Taking the area as a whole, despite the rise in investment, cement imports declined, and local production rose from 81 to 90 per cent of (greatly increased) requirements. But imports of other building materials increased by enough to raise total imports in this category.

The constant level registered for total material imports in the case of the first group is shown to be rather misleading: it reflects a balance between large increases in crude petroleum and metal materials, and large declines in most other kinds of imported materials, where import substitution could be more complete. In the other groups, material imports of all kinds, except textiles, increased, in spite of import substitution. In the second and third groups, and therefore for the region as a whole the ris imported materials was led by crude petroleum materials for consumer goods (other than food and t tiles). It is these two categories of commodities, toget with materials for capital investment in the third gro and certain foods (especially wheat), that largely acco for the rapid increase in imports of materials into La America.

3. CAPITAL GOODS

A comparison of the rise in imports of various sorts capital goods involves examining the rises in the sa categories of metals, building materials and equipment have been analysed above, but with the figures for equ ment classified according to the economic activity which it is intended.

Table 86 shows that imports of materials for mak capital goods, and of agricultural equipment, genera rose by more than imports of finished industrial and tra port equipment in the industrialized countries, except t there was a fall in imports of building materials in the fi group. The relatively slow rises in equipment do reflect import substitution (though this has begun Argentina, Brazil and Mexico) so much as the postpo ment of purchases of durable goods. Another factor bear in mind, however, is that equipment purchases w in some cases at a high level in 1948-50 because such go had been difficult to obtain for several years previous

The first group shows a decline for all types of equ ment. This applied to both countries, except that impo of industrial equipment rose slightly in Cuba. In Arg tina, apart from a few cases of import substitution, declines were due to the shortage of foreign exchange, they were also an effect (as well as a cause) of the fal capital investment. The second group of countries permitted considerable increases in agricultural equ ment, but in three of the countries, for various reaso imports of other types of equipment hardly rose. Chile, there was actually a fall in imports of indust equipment, due to the need to impose drastic imp restrictions. In Venezuela, the explanation is the fal mining investment, since mining machinery is inclu here with industrial. In Brazil, there were also limits

Table 86. Latin America: Percentage changes in annual average real imports of capital goods[a] by commodity class and country group, 1948-50 to 1954-55

	Metal materials	*Building materials*	*Agricultural equipment*	*Industrial equipment*	*Transport equipment*	*All capital goods*	*All imports*
A. *Countries in process of industrialization*							
(i) With imports stationary or falling	27	−40	−23	−40	−44	−23	−15
(ii) With imports increasing moderately	29	22	49	16	19	21	32
(iii) With imports increasing rapidly	82	126	75	67	55	75	79
B. *Other countries*	32	48	62	65	40	49	43
Latin America	34	20	36	12	12	18	25

[a] For definition of "capital goods" and details of the coverage of each category see Explanatory Note. "Industrial" equipment includes equipment for mining, and also equipment that cannot easily be identified as intended for agriculture or transport.

Table 87. Latin America: Percentage change in annual average real imports of consumer goods,[a] by commodity class and country group, 1948-50 to 1954-55

	Food	*Textiles and clothing*	*Other non-durables*	*Durables*	*Fuel*	*All consumer goods*	*All imports*
A. *Countries in process of industrialization*							
(i) With imports stationary or falling	−6	−42	−6	−33	26	−11	−15
(ii) With imports increasing moderately	36	−22	62	−12	109	43	33
(iii) With imports increasing rapidly[b]	51	12	110	113	146	81	79
B. *Other countries*[c]	40	24	54	40	46	38	43
Latin America[b c]	27	−16	40	3	77	29	25

[a] For definition of "consumer goods" and details of the coverage of each category see Explanatory Note. It should be borne in mind that materials for making consumers' goods are included in this table.

[b] Excluding Ecuador from the first three columns.

[c] Excluding Paraguay.

reign exchange allocated to importers of such equip- but the intervening years had seen heavy purchases se lines, so the consequences were not nearly so as in Argentina and Chile. In Mexico, there were h special influences, and equipment rose parallel otal imports. Large increases occurred in all types ipment imported into countries in the third and groups, and the preference for agricultural equip- was not particularly marked.

explanation of the rather slow rise in imports of l goods is therefore to be found only in the first and l groups, and then only in three categories:[21] build- aterials and, more particularly, equipment for ort and industry. This is due in turn largely to nge difficulties in three countries—Argentina, Chile razil—which usually account, between them, for a roportion of imports of industrial equipment.

4. Consumer goods

ompiling table 87, consumers' goods at all stages of ction have been added together. For example, ts of both textiles and clothing have been summed, ld the total of imports destined to be included in ng, whatever their condition at the time of entry.

le 87 shows that only in the textile and clothing did the region's import substitution achieve a net tion in imports, in the face of a rise in consumption. s doubtless because substitution can be more com- in this group of industries, covering even the spin- f yarn, and in some cases (e.g. Colombia) the growth raw material. The decline for the region was, er, at least partly due to the exclusion of imports by s and tariffs applied by the more industrialized ries, especially Argentina. The second group of ries all showed declines in the total of textile imports. three countries (Venezuela, Chile and Mexico) the ecline was small, the decline in imports of finished cts being largely offset by a rise in imports of erials". (Uruguay also showed the same pattern.) In Brazil, textiles both as "materials" and finished goods declined, because of the import substitution in spinning and most of the total decline in the second group is attributable to Brazil. Peru and El Salvador showed increases in both types, especially finished products, and Colombia presents a pattern opposite to the predominant one—a fall in imports of "materials" balancing a rise in finished products. This was the pattern also for the unindustrialized countries as a whole.

In food, increased consumption outweighed the effect of import substitution. There was a decline in total food imports in only three cases—Argentina, Cuba and Uruguay—as against eight cases for total textile imports. In the three cases mentioned the decline was small. However, the net increase was very small for Mexico and Venezuela, and the rather large rise in the second group of countries was due to Chile and especially to Brazil (mainly because of wheat). The net result was again that, in the industrialized countries, there were bigger rises in imports of materials than of finished goods, but the pattern is much less clear. Import substitution can frequently be achieved in the case of food crops; the possibility is rarer in the case of raw textiles. Indeed, the contrast in the case of food can largely be put down to the increased wheat purchases in Brazil.

The increases in the last category of non-durable consumer goods, containing the remainder, are not very dissimilar to those of food imports. Only one of the partially industrialized countries, Argentina, achieved a net reduction in this category, and then it was not large. Increases for the countries of the second group ranged from 51 per cent (Venezuela) to 71 per cent (Brazil), and were still larger for the third group. There was, however, a much more marked tendency for imports of materials for making these consumer goods to rise more than imports of finished goods. This was true of most of the countries in process of industrialization (especially Colombia, where material imports more than doubled, whereas imports of finished goods fell by more than one half). The sharp contrasts between groups for consumer durables have already been discussed.

The total figures for fuel imports show how little effect

---

part from the reduction of agricultural equipment imports group, which was not of great quantitative importance.

import substitution—in mining and refining—has had as yet. For each class of country in process of industrialization, total fuel imports increased more than any other type of merchandise destined (in the main) for consumers, and it has formed an increasing proportion of imports in nearly every case.[22] The increase in fuel imports was particularly marked for countries in the first two groups, by comparison to the declines, or smaller increases, in many other types of consumer goods. Within the second group, large relative increases are found even for the traditional oil exporters, Venezuela and Mexico. However, these were due only to special derivatives.[23] The doubling of fuel imports into Brazil (attributable to increases in both crude petroleum and petrol) was quantitatively far more important. Still faster increases occurred for all the countries of the third group, reflecting the increased imports of crude into Uruguay and of refined products into the others.

The rather large rise in the region's imports of consumer goods can therefore be put down mostly to increases in fuel and in materials for consumer goods industries (other than food and textiles). These show the fastest rises of the consumer goods categories for each group of countries. The rise in food imports is also noteworthy, particularly for the second group of countries. These increases outweighed the effect of import substitution for textiles and clothing in the industrialized countries. Durables register more or less constant levels for the whole region, the big relative rises in the last two groups more or less balancing the smaller declines for the countries in process of industrialization which have restricted these imports.

IV. IMPORT FLEXIBILITY AND EXTERNAL VULNERABILITY

The previous section has shown that countries in process of industrialization tend to increase their imports rapidly. The process of industrialization makes it possible for incomes to rise more rapidly than export earnings, and the marginal propensity to import appears (given a free rein) to be high—especially for durables, fuels and materials. The extra demand for food is not so heavy, but rising imports of food, like rising imports of fuel and materials (other than textiles), and, unlike imports of durables, appear to be difficult to suppress.[24] Such imports are increasingly "essential" to economies in process of industrialization, in the sense that Governments find it politically necessary to permit their growth, and also that their volume has not been very sensitive to economic policies designed to reduce the total demand for foreign exchange.

In the countries undergoing industrialization which do not enjoy a big increase in the capacity to import, the consequence is that imports of certain items are severely restricted, including—in the last resort—capital equ
ment.

This inflexibility in certain imports causes no probl
when the capacity to import rises at a sufficiently
pace, and the demand for imports is kept in check
import substitution. A margin is then preserved betw
the capacity to import and the rising level of "necessar
imports, i.e. imports which cannot be reduced with
serious economic and political consequences. Such
margin constitutes the Government's room to manoeu
in its foreign economic policy.

Should, however, the capacity to import cease to
pand, and still more if it falls, then the country's vulne
bility is revealed. For a time, it may be possible fo
Government to meet this situation by drawing on
reserves, or by borrowing overseas. But when it is driv
to making further economies on imports, no matter h
it tries to achieve these—by devaluation or by imp
controls or by both—it finds the consequences v
unpleasant. As the margin for economy in imports
whittled down, certain purchases stand revealed as
easily dispensable. To check food imports (or allow th
prices to rise by devaluation) may precipitate an incre
in local food prices. Purchases of fuel are not likely to
affected by moderate increases in price, and attempts
restrain the quantity imported may have disastrous c
sequences on the system of transport. A reduction in
supply of materials, or even the failure to increase the
may cause unemployment in the factories. All th
rigidities have been demonstrated in the general secti
which have gone before. Even a redution in imports
industrial and transport equipment, which some Gove
ments have found to be the least painful solution, leads
further problems in the long run, when existing equipm
wears out.

It is true that the problem would not necessarily pres
itself in this form if a Government undertook internal
flationary policies at the same time as its export earni
shrank. Then imports would be reduced by a gene
decline in economic activity and a fall in incomes. This
however, a very hard path to take. The social con
quences are severe if (as is indicated by this analysis
large dose of deflation is necessary to reduce impo
appreciably and close the gap in external transaction
Urban unemployment can be more serious than a fall
farm income, because of the difficulty of making eve
bare living in the depressed urban areas, and the rarity
adequate social security schemes. Moreover a reducti
of domestic demand must check the further progress
industrialization. Governments naturally try to av
taking steps which would make a recession more seve
Indeed, they tend rather—whether deliberately or
consciously—to offset the recession in foreign trade
allowing a budget deficit to appear, and perhaps by
couraging internal investment. One of the purposes
industrialization is precisely to create a section of

---

[22] To keep the discussion in perspective it should be pointed out that Venezuela's petroleum exports doubled so that the region's fuel exports increased even faster than its imports, and consequently net fuel exports also grew very rapidly indeed. Moreover, there have been further considerable developments in local production throughout the region since 1954-55. These have in some cases stemmed the rise in imports.

[23] And because of increased border traffic in Mexico.

[24] In several Latin American countries these demands were further stimulated by setting exchange rates for imports which amounted to subsidies.

[25] It may well be that because of the inflexibility noted abo
the elasticity of demand is a good deal lower when declines
income are considered than when imports are reacting to an
crease in income. (This "ratchet effect" would correspond to
different reactions of consumption, shown by studies of the
sumption function in the United States, to increases and to
creases in income.)

ny which will not be highly sensitive to the primary odity markets overseas, but can in fact be stimulated export markets are depressed, so as to act as a zing influence on the economy. For a Government country undergoing industrialization to adopt res of general deflation amounts to a confession of . If, however, the level of imports is not responsive nary measures for import reduction, such as import ls and devaluation because of the reasons outlined Governments may in fact be driven to such policies, nting the deflationary tendencies imparted to the ny by the decline in exports.

economy which is, or may be, forced to such steps rly in a highly vulnerable condition. A number of ies will be considered individually now, to see er the reducible margin in their imports has grown en in recent years. This is naturally not the only in which an economy can be considered "vulnera- It should be pointed out that for the purposes of tudy vulnerability or invulnerability is not con- d in a fundamental sense. Factors such as the t to which an economy depends on exports, the of export products, the nature of the markets for products, the size and liquidity of internationally able assets, will only be touched on briefly. The se of these country studies is to discover how severe be the consequences of a forced decline in imports whatever reason such a decline were to occur.

STUDIES OF COUNTRIES IN PROCESS OF INDUSTRIALIZATION

1. ARGENTINA

entina was the first country in Latin America to e a substantial degree of industrialization. During cade 1900-1909, the value of manufacturing produc- as about half that of agricultural output (measuring t 1950 prices). By 1944-45 they were about equal. this point, both had grown several times, but manu- ing the faster of the two. During the next five years, er, between 1944-45 and 1949-50, industrial output d ahead, rising by some 30 per cent, while agri- al output declined slightly. This was a period when trialization was given greatest encouragement by the rnment, and agricultural prices were frozen at low . Then Argentina ran into severe difficulties in its ce of payments. The Government cut imports, in- g some materials and nearly all kinds of machinery, lso restricted credit. So industrial production fell Although there was a recovery in 1955, the 1954-55 of manufacturing output was only some 6 per cent the level of 1948-50, and the recovery was accom- d by a fresh deficit in the balance of payments. Agricultural output, however, started to rise once more, and partly regained its previous share of the national product. These trends are shown in table 88.

As has been seen, Argentina was the only country which suffered an actual decline in total real imports over the period of this study. One adverse factor followed another in bringing this about. At the end of the Second World War Argentina had stood in a very favourable position. It held considerable stocks of export products which had been accumulated in the war years, and the market for its goods was strong. The volumes and prices of its exports climbed rapidly to a peak in 1947. At the beginning of the period of this study, both prices and volume were slipping back, with the weakening of world markets, the discouraging effect of low agricultural prices and the exhaustion of export stocks. These declines continued into the years 1954 and 1955, and the capacity to import fell considerably.[26] The magnitude of the decline in imports will be seen more clearly if it is realized that the population grew by about 13 per cent over the period, so that *per capita* imports fell by nearly one third.

Domestic production rose only by about 9 per cent in this period, and the greater decline in imports than in exports caused the total available supply of goods and services to rise by even less, some 7 per cent. The fact that there was any increase at all might on the face of it suggest that local industry was able to supply substitutes for the goods which could no longer be imported. However, this increase in supply was largely in services and agricultural products, which rose by 10 per cent and 13 per cent in the period. Building activities declined by 5 per cent and, as we have seen, the increase in the volume of manufacturing was only 6 per cent (which did not make up for the fall in imports of manufactures).

(a) *Changes in the structure of imports*

One interesting feature, from a technical viewpoint, about Argentina is that, in its case, changes in the level and in the structure of the domestic product (and also of domestic expenditure) have reflected, and have to some degree been determined by, changes in the level and structure of imports, rather than *vice versa*.

It might be thought that with all the instruments of control at the disposal of the Argentina Government, including quantitative restrictions and a complex of

Table 88. Argentina: Production indices, 1945-55

(1950 = 100)

	1945	*1946*	*1947*	*1948*	*1949*	*1950*	*1951*	*1952*	*1953*	*1954*	*1955*
lture	102	106	115	115	106	100	106	94	121	118	122
facturing	77	86	100	101	97	100	103	95	93	101	111

ource: Producto e Ingreso de la República Argentina. "Manufacturing" excludes "construction" throughout this study.

---

[26] It should be noted that the capacity to import in 1948-50 was somewhat artificially reduced by a large capital outflow to compensate France and the United Kingdom for the nationalization of the railways. The years 1954-55 saw a lightening in the burden of such a capital outflow. If this improvement were left out of the picture, the figures of the capacity to import in table XI of the annex would show a still steeper fall, of 21 per cent in fact, more or less the same as the fall that did occur in imports.

Table 89. Argentina: Structure of imports, 1948-50 and 1954-55

(Percentage analysis of total imports)

	Finished goods			*Materials*		*Total*	
	1948-1950	*1954-1955*		*1948-1950*	*1954-1955*	*1948-1950*	*1954*
Consumer goods							
Food, textiles, etc.	11	6	Consumer materials	29	34		
Durables	7	4	Crude petroleum	3	8		
Fuel	6	7					
	23	17		33	42	56	5
Capital goods							
Agricultural equipment	3	3	Metals	12	19		
Industrial equipment	16	10	Building materials	7	5		
Transport equipment	7	5					
	26	18		19	24	44	4
TOTAL	49	34		51	66	100	1

Source: See table 88.

currency regulations, it would have been possible for the authorities to concentrate the reduction in imports on materials and goods for consumption, rather than on the machinery needed for further development. But this did not turn out to be feasible. The explanation lies partly in the fact that consumer goods imports had already declined as a result of the development of domestic production, and partly in the fact that the remainder consisted of goods (such as fuel and materials for the new consumer goods industries) which could neither be produced locally nor dispensed with.

The result of this combination of factors was that import restrictions bore much more heavily on the finished goods sectors, and the margin for restricting unessential imports was not wide enough for machinery, whatever its type or purpose, to escape their effects.

The consequent change in the pattern of imports can be summarized as is shown in table 89.

In many respects this import structure is typical of Latin America, although it represents the type of structure towards which many other economies are evolving. Even in 1948-50, Argentina's imports consisted to a far greater extent of materials than was the case for any other country, and in 1954-55 the percentage devoted to materials (66) put it in a class of its own. Imports of finished consumer goods have fallen to a level (17 %) much lower than is found elsewhere; but imports of materials for capital goods industries are very high, c pared with other countries, and table 89 shows this t due to the great and growing importance of metals Argentina's heavy industries, Argentine output of mary ferrous metals being small.

The decline in imports of finished capital goods (e more marked in absolute terms) inevitably affected whole level of investment. It is true that this was not only influence on investment, which would have b discouraged anyway by the uncertain prospects for ports, and by the credit restrictions which the authori adopted in 1951, in an attempt to stem the flow of impo But the increasing difficulty of obtaining permits to port machinery undoubtedly played a big part, since l production of machinery is still very limited. The t effect on the level of investment is bound to be more t just the value of the reduction in imports of capital go the associated installation costs will not be incurred, often the impossibility of obtaining particular machin means that a whole project will be abandoned, and order for local capital goods cancelled as well. T therefore, is a country where the level of capital inv ment was not restricted primarily by a shortage of savi or even of investment opportunities, but by the lack foreign exchange to pay for certain types of capital go

Table 90 bears out this argument. It shows that decline in building was very small. In building, imp

Table 90. Argentina: Investment and imports of capital goods, 1948-50 and 1954-55

(Annual averages in thousands of millions of pesos at 1950 prices)[a]

	Fixed capital investment			*Imports of capital goods*		
	Total	*Producers' equipment*	*Building*	*Total*	*Producers' equipment*[b]	*Building*
Annual average, 1948-50	15.3	6.4	8.9	2.7	2.3	0.45
Annual average, 1954-55	13.9	5.2	8.7	2.0	1.7	0.24
Percentage change	−9	−19	−2	−27	−23	−47

Source: See table 88.

[a] For this section on Argentina, figures are kept in pesos to avoid the problem of conversion into U.S. dollars. It should be borne in mind that for an individual country the comparison between expenditure and imports may be vitiated to some extent by variations in inventories of imported goods.

[b] Including metals.

Table 91. Argentina: Economic aggregates and imports by end-use, 1948-50 and 1954-55

(Annual averages in thousands of millions of pesos at 1950 prices)

	Gross domestic product	*Con- sumption*	*Capital invest- ment*	*Imports*		
				Total	*For con- sumption*	*For in- vestment*
1948-50	62.1	48.1	15.5	6.1	3.4	2.7
1954-55	67.4	52.7	14.6	4.8	2.8	2.0
Percentage change . . .	9	10	−6	−22	−18	−27

Source: See table 88.
Note: The population increase was 13 per cent over the same period.

less important, and substitution of local for im-
materials is much easier. (Indeed by varying the
it is usually possible to avoid the use of scarce
als entirely.) Investment in production equip-
fell, however, more or less in the same ratio as
s of equipment.

ause the authorities could not afford to offset the
e in investment by stimulating local demand (for
the repercussions on imports), consumption hardly
t all and average *per capita* consumption fell,
ng all classes of consumer goods except food. (See
91.) The composition of consumption changed in a
hat must also have involved a certain loss of con-
satisfaction, local products being bought in some
only because the alternative outlets for purchasing
were dammed up by exchange controls. Undoubt-
for example, the public would have preferred to
a higher proportion of its money on motor cars than
able to.[27]

se changes in imports are also reflected in the com-
on of the domestic product, described above.
es and primary production, the sectors least de-
nt on imports, showed an upward trend over the
; manufacturing rose slightly, with the aid of
nt or increased supplies of materials in some lines
eater domestic output of them in others; construc-
however, declined, though not nearly as much as the
imports of building materials.

(b) *Analysis by commodity categories*

Finished goods. Percentage changes in imports of
ed goods were as follows:

d: −15; clothing: −96; other non-durables: −54;
es: −59; fuel: −3; capital equipment: −46; all finished
−45.

ge reductions could not be made in foods ready for
mption, because imports of these had already been
ed to low levels. The only important case of domes-
oduction supplanting imports was that Argentina
sed its output of tea by over 3 thousand tons,
lly eliminating imports. Other foods, such as tropical fruits, cocoa and coffee were more or less constant, implying declines in *per capita* consumption.[28]

The decline in finished textiles was much more marked. In fact imports under this heading almost disappeared completely, falling from 301 million pesos to 10 million pesos (at 1950 prices). It should not however be thought that this decline was wholly compensated by increased production at home. The output of clothing as a whole fell over the period (the fall being over 30 per cent, in *per capita* terms).

The remaining group of non-durable consumer goods showed mixed trends. Imports of pharmaceutical products more than doubled, but this increase was outweighed by declines in other products, due either to import replacement (e.g. lamps and pencils) or an enforced reduction in consumption (e.g. photographic films).

Sharp reductions were also made in imports of consumer durables. Particularly big cuts were made in spare parts and tyres for cars (nearly three-quarters), and in bicycles, motor-cycles, clocks, watches, pianos and refrigerators, imports of which were almost eliminated. In most of these cases, increased local production replaced the imports more or less completely.

Imports of finished fuels fell slightly, the increases in coke, fuel oils and lubricants being outweighed by the decline in coal and petrol. The reduction in coal imports was due partly to the increased production of Argentine mines, and partly to a switch in household consumption: these changes outweighed the effect of an increase in the amount of coal burned by the railways (due to the elimination of wood-burning engines). The fall in petrol imports was attributable to the growth of domestic refining, which also made it possible to avoid an increase in imports of other derivatives (local output rising by 42 per cent). Changes in this group were all relatively small, and it clearly shows the same sort of inflexibility as food.

Lastly, very drastic reductions were made in imports of equipment. The details will be discussed below.

(ii) *Materials.* Percentage changes in imports of materials were as follows:

Food: −16; textiles: −30; other consumer materials: —; crude petroleum: 76; metals: 28; building materials: −47; all materials: —.

---

further point is that there has apparently been some
oration in the quality of certain consumers' goods, and this
fully reflected in the figures for total consumption, which
ore overstate the rise which has occurred.

[28] In addition, the fall in the unit value of coffee imports was so sharp that it strongly suggests a deterioration in quality (and to the extent that this occurred, the volume figures would be misleading).

It will be seen that the stability in total material imports is the result of a balance between big increases in some cases and big reductions in others.

So far as food for processing is concerned, the position is much the same as for foods ready for consumption: imports were already down to a low level, and the possibilities for further substitution were limited. The main development was the elimination of tobacco imports.[29]

Substantial reductions were achieved in the case of textile materials, though they were not relatively so far-reaching as for finished textile products. The most important advance was the development of wool spinning: this ousted imports, which in 1948-50 had represented 75 million pesos annually. There were also big savings in imports of sewing threads, cotton yarns and rayon yarns; and the progress achieved in planting cotton (especially long-staple varieties) averted any rise in the imports of raw cotton. Still, import substitution is not the only explanation of these import savings. It will be remembered that the output of clothing fell, and this also had its effect on the demand for raw and spun textiles.

It proved difficult to economize in materials for some other light industries, which were tending to grow despite the general economic stagnation, especially industries producing import substitutes. One example was the rubber industry: Argentine tyres largely replaced imported tyres, but raw rubber imports trebled as a corollary. The chemical industry also expanded rapidly. Imports of sulphur were totally eliminated, and taking the industry as a whole, against the rise in output of about 500 million pesos (or 19 per cent), the rise in imported materials was only 100 million pesos, so that in this case some net import substitution was possible. The paper industry also showed mixed experience, with a small net saving in foreign exchange. Imports of cardboard, board and wrapping paper, and newsprint declined, but in all these cases the expansion of domestic industry, though considerable, did not fully replace the former imports, and the apparent supply of paper declined. Moreover, as against a total saving of 107 million pesos in paper imports must be set a rise of 71 million pesos in imported pulp for paper.

The big increase in crude petroleum imports (amounting to 155 million pesos at 1950 prices) is the corollary of import substitution in petrol noted above. The rise amounted to 1.6 million tons, greater than the rise in domestic petroleum production, which has been lagging behind the processing side of the industry.

Apart from fuel, metals are the only commodity group showing a rise in imports. As in the case of fuel, the rise in imports was concentrated mainly in primary output, in this case pig iron. So far as processed iron is concerned, iron rod was almost completely replaced by local production, but other types of imports rose somewhat, especially iron plate (by 151,000 tons). Imports of partly manufactured products declined by 130,000 tons altogether, despite increases in rails (to replace the antiquated permanent way)[30] and tinplate (to meet the expansion of the canning industries). To some extent this net declin semi-manufactured products is attributable to lower lev of capital investment, but domestic production also panded greatly (e.g. wire, strip, stays and galvani sheets, where imports were virtually eliminated). L marked, but still substantial, was the reduction in impo of shapes and tubing. The consequence of all these dev opments was that the tonnage of imports rose by 48 cent, but their value at constant (1950) prices by o 21 per cent, the difference reflecting the great change the composition of imports. A similar development curred in copper; primary copper imports rose by thousand tons costing 24 million pesos, but imports copper manufactures fell by 7 thousand tons cost 44 million pesos, so that here again the net result a saving in foreign exchange. Argentine copper found increased their output by 22 per cent. Other metals sh various trends. In lead, import substitution was comple and imports of zinc fell, but those of aluminium ing and tin bars rose.

The declines in building materials were due partly to fall in capital investment and partly to import substi tion. Domestic output expanded enough to take care the demand for tiles and also for sand and pebbles, though in the latter case this was due largely to the s pension, for political rather than economic reasons, purchases from Uruguay.[31] Imports of cement f although substitution was still not complete by the e of the period, and imports of plate glass rose (substituti being confined to the run-of-the-mill grades). Imports timber remained about unchanged *in toto* (although, reasons of trade policy, supplies from Chile and Easte Europe were increased at the expense of Brazil and Pa guay).

(iii) *Capital goods.* The results quoted above will n be considered from another angle, capital goods bei compared irrespective of their stage of manufacture entry.

Percentage changes in imports of capital goods were follows:

Metals: 28; building materials: —47; agricultural equipme —23; industrial equipment: —52; transport equipment: — all capital goods: —27.

The increase in output of the heavy industries (reflect in the increased imports of metals, discussed abo enabled some progress to be made in import substituti for engineering products. It is not possible to ma detailed comparisons, or even to separate the figures the output of consumer durables from capital goods, b it can be concluded that, taken as a whole, engineeri production made good the loss of imports. Over t period studied, the average annual value of output of kinds of durable products rose from 3.9 to 5.1 milli pesos, as against a decline in imports for the same gro from 2.0 to 1.0 million pesos. The substitutions whi did occur, however, were nearly all in consumer rath than capital goods. Thus cases have been noted above increased local production of bicycles and spare parts

---

[29] It will be recalled that the food group includes beverages and tobacco.

[30] Twenty-five thousand kilometres of track (over 50 per cent of the whole) have been in use for more than 40 years.

[31] The consequence was that these materials had to be haule longer distance to Buenos Aires, and costs rose.

s. There was some increase in local production of light ital goods as well (e.g. typewriters, ploughs and tools), Argentine industry has been showing interest in pro- ing boilers and electric motors, but in the more com- x types of equipment (e.g. locomotives and electric erators) there has been little possibility of local pro- tion replacing imports.

lthough the authorities could not spare much foreign hange for the badly needed imports of equipment, ne exceptions were made. Imports of tractors actually e, and the savings achieved in imports of some light icultural implements were partly made good by local put. Throughout industry and transport, however, re were big, irreplaceable, reductions in imports of ipment, involving in some cases the continuation in of equipment long ready for the scrap heap. Imports railway goods wagons were eliminated, and those of omotives, all types of machinery, and buses and lorries e reduced by over 50 per cent. The only exception s that imports of railway passenger coaches were re- ned after a temporary suspension, and therefore show ne increase.

iv) *Consumer goods.* Consumer goods can also be con- ered as a whole, adding materials and printed goods ether.

he percentage changes in imports of consumer goods e as follows:

ood: −14; textiles and clothing: −48; other non-durables: 4; durables: −59; fuel: +26; all consumer goods: −18.

hese figures reflect the combined effects of those ted above. Total foodstuffs, of all kinds, show a slight line, due to the substitutions for tea and tobacco, while er food imports were maintained at about the same el. Imports of textiles and clothing show a big decline, tly because of a fall in total consumption, and partly ause of import substitution all along the line. It seems t such reductions in textiles represented a very rough al of 500 million pesos, or approaching 40 per cent of total decline in imports. Imports of other non-dura- s show less flexibility. Some declines, due to import stitution and lower consumption, were matched by the wth of material supplies for the new light industries en though these were often inadequate for full-scale ration). Consumer durables offered the greatest sibility of economy—and fuel the least.

otal imports of fuel continued in fact to grow quite idly, indeed faster than the population, despite the elopment of local petroleum production and (more ticularly) refining, and despite the smallness of the in- nent in the national product and the reluctance to rease import quotas. But for the inclusion of fuel as a sumer good (and some of it must have been used in ital investment, for example cement production), orts of consumer goods would have declined by 26 per t, almost as much as the decline in imports of capital ds.[32]

(c) *Flexibility of imports and economic vulnerability*

The industrialization of Argentina had, therefore, by 1954-55, failed to insulate the economy from external fluctuations. Because of the way in which industrialization was achieved, after the end of the Second World War, the whole Argentine economy reacted violently to fluctuations in external trade. Domestic investment has followed the same course as income from external sources over recent years, rising and falling with a time-lag of one year. Not only did poor exports discourage investment; in addition a decline in external income meant that exchange could not be made available for the purchase of capital goods.

It is perfectly conceivable that variations in the volume of domestic investment should keep pace with the movements of income from external sources without major repercussions on internal product and income. This has actually happened in other countries in Latin America where certain conditions have been fulfilled. Such was not the case with Argentina. From 1948 onward there were not sufficient reserves available on which to fall back in years when the situation deteriorated, nor had the country a margin of non-essential imports by restricting which resources could have been released for importing goods essential to internal economic activity. It was thus impossible to carry out an expansionist policy to counteract the effects on domestic income of the reduction in income from external sources. From mid-1951 to 1953, since the level of imports jeopardized the already weak monetary reserves, the authorities apparently found themselves obliged to adopt a restrictive credit policy, with the result that the internal product fell as well. So the domestic product too shows fluctuations similar, though somewhat less marked, to those of exports and investment.

The inflexibility of imports was partly due to the fact that, during the boom years, capital investment in basic industries, such as energy, iron and steel and transport, was not given greater emphasis. Resources were devoted instead to a heavy programme of non-productive public works, and to establishing less essential industries, such as factories for making durable consumer goods, the material requirements of which were added to the list of imports which were indispensable. However, during the foreign exchange crisis of 1952 and 1953, the imports of materials, fuel and spare parts for industry were themselves reduced, and at this point the level of industrial activity became directly dependent on the performance of the export industries. All other imports had been severely reduced, and, when income from abroad fell further, the reductions had to come in the requirements of industry. Some industries managed to avoid drastic consequences by drawing on inventories, or by achieving substitution of materials, but clearly the economy had then been brought to a very vulnerable condition. A loss of say, one million pesos in exports, meant not only a decline of this magnitude in export incomes, but a much greater loss in incomes derived from manufacturing. The reduction of one million pesos worth of imports of fuel and materials can cause a fall in urban incomes several times as great (since materials form only a fraction of the gross value of output).

On the other hand, the exclusion of metals from capital ls, on the same grounds, would have an opposite effect, ing a bigger fall to appear in capital goods imports and a ller fall in imports of consumer goods.

Table 92. Chile: Production indices, 1945-55

(1950 = 100)

	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	19
Agriculture	84	99	89	104	100	100	96	111	115	111	11
Mining	82	86	90	110	97	100	115	111	107	88	9
Manufacturing [a]	91	84	80	94	97	100	92	99	119	114	11

Source: Corporación de Fomento de la Producción. Figures for 1955 added by ECLA.
[a] Including construction.

Real imports in Argentina have shown a downward trend in recent years, and have also fluctuated sharply. Imports of materials show a less noticeable downward trend but the same fluctuations, from which it can be inferred that imports of materials were the last to be restricted, but that they too had to be reduced when trade was exceptionally bad.

Actually, 1954 and 1955 were not the years of severest import restriction. By this time, exports had improved somewhat, and increases were allowed in certain imports of fuel and materials, enabling production in secondary industry to rise. The increase in exports was not however enough to permit the resumption of the importation of new capital equipment in quantity, and moreover, since the improvement was not sustained, a large deficit in the balance of payments appeared, confronting the Government with further difficulties.

Argentina provides an object lesson, full of significance for Latin America. The progress of what was in some ways the strongest, most productive, economy in the region, with relatively high incomes, was brought virtually to a halt, lasting for nearly a decade; and indeed this analysis shows that its position is such that a further break in export incomes could have most serious consequences.

2. CHILE

In some respects the case of Chile, over this period, recalls that of Argentina. Here too industrialization continued strongly in the post-war period and agriculture lagged behind. But whereas in Argentina this was partly due to an inadequate labour force to cope with the combined needs of agriculture and manufacturing, in Chile the agricultural backwardness was due rather to insufficient technical progress. In both cases, however, the incentive to raise agricultural output was weakened by the Government's price policy for the main agricultural products, and by the lack of development of transport facilities. The ultimate consequences were also the same, namely a decrease in the foreign exchange available to pay for imports of investment goods. In Argentina this occurred because agricultural exports fell, and in Chile because imports of foodstuffs rose.

Year-to-year fluctuations in markets and in the weather tend to blur the comparison; the trend is more apparent if the years are grouped as follows:

	1945-47	1949-51	1953-55
Agriculture	91	99	113
Mining	86	104	98
Manufacturing	85	96	114

In Chile, as in Argentina, there was a post-war rise the price and volume of exports, and part of the procee was diverted by the Government to the internal econom This was easy to achieve, because the rise, particularly o recent years, has been concentrated in the copper indust The Government has been able to appropriate much of t improvement in the purchasing power of copper by co pelling exporters to convert their dollar receipts into pe at an artificial rate. The improvement in the terms trade has not therefore been a stimulus to investment the export industries. Nor has the Government used t revenue to promote public investment, which has in fa been reduced. On the other hand, the increased price copper *did* make possible large subsidies on certa imported foods and materials for making consumer goo (e.g. cotton and newsprint), one way of achieving the subsidies being to allow importers to buy dollars at a pre erential rate.[33] The combined effect of these policies w that much of the increased demand derived from expo incomes was transferred abroad and did not benefit loc industries. The domestic product, in fact, only rose b 12 per cent—about the same as the rise in populatio The Chilean economy is an "open" economy, with expor forming a high proportion of the domestic product, an if no great stimulus comes from the export industries, th economy tends to develop at a rather slow rate.

(a) *Changes in the structure of imports*

One important aspect in which Chile's experience di fered from that of Argentina was that prices of Chilea exports were higher in 1954-55 than in 1948-50. But th improvement occurred to a large extent after the midd of 1954, and imports remained at a low level for most 1954. By recent standards, 1955 was an outstanding good year for Chile, but taking the two years, 1954 an 1955, as a whole, the rise in imports was not great—2 per cent (12 per cent *per capita*).

The way in which the rise occurred reflects the fisca arrangements discussed above. The increase in import took place only in consumer goods, imports of whic rose 43 per cent: imports of capital goods declined b 6 per cent. There is not so much contrast, however, imports are classified according to stage of productio materials rose by 27 per cent, as against 20 per cent fo finished goods.

---

[33] In 1955, however, economic policies were partly reversed The copper industry was encouraged by special concessions and by being allowed to receive more of the export proceeds (provided copper production was high), while subsidies were reduced. Since then, further steps have been taken which have had the effect of bringing local prices more closely into line with world prices.

Table 93. Chile: Economic aggregates and imports, 1948-50 and 1954-55

(Annual averages in millions of dollars at 1950 prices)

	Available goods and services			*Imports*			*Imports as a percentage of available goods and services*		
	Total [a]	*Consumption*	*Fixed capital invest.*	*Total*	*For consumption*	*For fixed capital invest.*	*Total*	*Consumption*	*Fixed capital invest.* [b]
1948-50 . . .	1,751	1,546	169	254	151	103	14.5	9.7	61
1954-55 . . .	2,085	1,897	206	313	216	97	14.1	11.4	47
Percentage change . . .	19	23	22	23	43	−6	15.0		

Source: Corporación de Fomento de la Producción. Figures for 1955 added by ECLA.
Note: (The population rose by 11 per cent over this period.)

[a] Includes inventory accumulation.

[b] These percentages seem suspiciously high, and their absolute levels (though not the movement over the period) may be due rather to the statistical problems of finding appropriate conversion rates than to the dependence of Chilean investment on imports, great though this is.

will be seen that consumption increased more slowly did imports of consumer goods. On the other hand, l-capital investment rose despite a fall in imports of tal goods. This was in part due to successful import titution for iron and steel products, and in part to a ge in the composition of investment, construction ch is not so import-intensive) growing relative to r forms. In some lines, nevertheless, restrictions on orts prevented investment taking place, and this s to account for the low level of investment in Chile, idering the size of its national product.

e changed pattern of imports may be expressed as is vn in table 94.

nished goods fell only slightly as a ratio of total orts, but the proportion of imports destined for tal investment declined from 41 to 31 per cent, the st figure among all the Latin American countries in ess of industrialization (except El Salvador). Ims of materials for making consumer goods, which were ady relatively high in 1948-50, increased still further, e same percentage (42) as for Argentina. The other ing feature about the analysis is the large, and growimportance of fuel imports. Amounting to a total of 17 per cent of the import bill in 1954-55, they were relatively higher than in any Latin American country, except Brazil, and this despite the existence of local resources of petroleum, coal and hydroelectricity.

(b) *Analysis by commodity categories*

(i) *Finished goods.* Percentage changes in imports of finished goods were as follows:

Food: 108; clothing: −71; other non-durables: 16; durables −17; fuel: 73; capital equipment: 5; all finished goods: 20.

The great increase shown for food was mainly due to large-scale imports of powdered milk, reflecting the failure of liquid milk production to expand sufficiently. The latter went up from 651 to 714 million litres, or, including domestically produced powdered milk, from 666 to 762 million litres.[34] Imported powdered milk raised the total apparent consumption in 1954-55 to 883 millions. This particular item had a great effect on the group average because other items are small. Due to a rise in coffee

---

[34] Converting powdered milk into liquid at 4.5 litres per kilogramme.

Table 94. Chile: Structure of imports, 1948-50 and 1954-55

(Percentage analysis of total imports)

	Finished goods			*Materials*		*Total*	
	1948-1950	*1954-1955*		*1948-1950*	*1954-1955*	*1948-1950*	*1954-1955*
umer goods							
od, clothing, etc.	10	10	Food, textiles etc.	35	41		
urables	3	2	Crude petroleum	—	1		
uel	11	16					
	24	27		35	42	59	69
tal goods							
ricultural equipment	3	4	Metals	6	3		
dustrial equipment [a]	18	13	Building materials	6	4		
ansport equipment	8	7					
	29	24		12	7	41	31
TOTAL	53	51		47	49	100	100

[a] Including mining machinery.

prices, imports were reduced, but this was matched by an equivalent rise in imports of tea. Imports of bananas, maté and cocoa were little changed, implying declines in *per capita* consumption.

Large economies were made in recorded imports of clothing, particularly in cotton fabrics of all kinds, which were matched by the expansion of domestic production. There was also, however, an increase, of unknown dimensions, in unrecorded imports from cheaper sources, such as Argentina. Other non-durable imports rose moderately, as for most countries. The reduction in imports of durables was in no way comparable to what was achieved in many countries. This was largely because they had already fallen to a low level, and, although further reductions were achieved, the scope was rather limited. The main item in this group, still accounting for over half, was cars, imports of which fell from 2,303 units totalling 4.5 million dollars to 1,827 units totalling 3.6 million, a decline of 21 per cent.

The rise in imports of fuel was rapid and important. Apparent consumption of coal and coke increased by 20 per cent, and, although coke imports were largely replaced by production in the Huachipato enterprise, there was little rise in coal output. So increased requirements (including coal for coke-making) had to be met by imports, which rose sharply.[35] Imports of petrol and other derivatives rose by nearly 50 per cent. The new Concón refinery commenced operations only at the end of 1954, producing in 1955 35 per cent of the country's needs for petrol and derivatives. Consumption of petrol (including derivates) was apparently running 76 per cent higher in 1954-55 than in 1948-50.

The reduction in imports of capital equipment was hardly compatible with the Government's plans to develop local industry. This will be considered further below.

(ii) *Materials.* Percentage changes in imports of materials were as follows:

Food: 39; textiles: 16; other non-durables 77; crude petroleum: ...[a]; metals: −32; building materials: −31; all materials: 27.

[a] None was imported in 1948-50.

The increase in imports of foods requiring processing was greater in absolute, though not in relative, terms than the increase in imports of foods ready for use. This was however due almost entirely to two commodities; wheat and raw sugar. Each of these was responsible for a rise of over 10 million dollars (at 1950 prices), which is equivalent to 3 per cent of Chile's imports. The case of sugar is straightforward. Only a very little quantity was produced locally in 1954-55, and the rise of nearly 60 per cent in imports reflected a similar rise in consumption. The low subsidized price encouraged increased purchases by households, and it appears that more was also used for "stretching" wine. In the case of wheat, however, Chile, which had once been an exporter, and had then been self-sufficient for two or three decades, turned into a net importer. Production rose by only 7 per cent over this period, and the rise of 25 per cent in apparent consumpti was achieved largely by increasing imports, from 31, tons (representing 3 per cent of consumption) to 210, tons. One factor offsetting these rises was a fall recorded imports of cattle on the hoof, worth appro mately 9 million dollars. But as against this must be se rise in Argentine chilled meat from virtually zero to million dollars; moreover semi-official estimates sugg that unregistered imports of cattle on the hoof amount to some 80 thousand animals annually, worth 7 milli dollars. This would imply a rise of about 4 million doll in the value of such unrecorded traffic, so that the saving on meat was very small.[36] A rather marked cline occurred in tobacco consumption, because of pr rises, and this had an effect on imports as well as loc production.

As cotton is not grown in Chile, the development of th industry required an increase of over 30 per cent in t imports of raw cotton. This amounted to 4.8 milli dollars and must be offset against a saving of 2.0 milli in imports of cotton yarns, making a net increase materials of 2.8 million for the weaving industry. I ports of wool followed an interesting course: imports greasy wool were reduced in favour of wool tops. Oth developments were that the imports of cotton or ray cord for tyres and of nylon yarn doubled.

Imports of other materials for making consumer goo expanded sharply, often reflecting the establishment new industries. Imports of dolomite and cattle hides ro more than twofold, and big increases also occurred in i ports of resins, tallow and phosphate fertilizers. The was however almost complete substitution for imports superphosphates and mechanical pulp, and considera substitution in newsprint production, imports declini by 3,200 tons, while output rose by 3,800 tons. Substit tion in other papers and boards had already been co pleted by 1948-50.

Chile's output of crude petroleum rose nearly tenfo over the period, to 343,000 cubic metres *per annum* (round figures), but this was not enough for the needs the new refinery, and 133,000 cubic metres *per annum* ha to be imported in 1954-55, at a cost of 3 million dolla Thus crude production lagged behind refining as Argentina.[37]

Following the installation of the Huachipato integrat steel mill, at the end of the 1940's, Chile took the lead import substitution of iron and steel products in Lat America. By 1954-55, substitution was complete, nearly so, in the case of tinplate and wire, and big redu tions (of about 75 to 90 per cent), had been made in im ports of rolled products, shapes, and several other line Moreover, the establishment of this mill promoted the d velopment of several metallurgical trades, such as th manufacture of barbed wire, caps, nails, etc., and impor of these items were also reduced to very low level Altogether, even allowing for increases in a few line

---

[35] This is really in essence a case of a rise in material imports balancing a decline in imports of a semi-manufactured product, but treating both coal and coke as finished products conceals the process.

[36] If import statistics were adjusted for these estimates, t rise in imports of food for processing would be 46 per cent inste of 39.

[37] By 1956 the gap had become wider: about 500,000 cub metres had to be imported to supplement 563,000 cubic metres crude petroleum produced locally.

rts of iron and steel products declined by 12.3 million
rs, or 54 per cent. The fact that the mill, unlike those
razil and Mexico, operated from the very outset at a
which exceeded local requirements, and permitted
rts to be made is also noteworthy. According to a
rt issued by the enterprise, its operations between
and 1954-55 saved 22 million dollars in imports, at
ent, *not* 1950, prices. To this 8 million dollars must
dded for exports. Likewise, 11 million should be
cted for the increased foreign exchange spent (in-
ng payments for the coal mentioned above), making
t total saving of 19 million dollars, or 5 per cent of
's total import bill. The reduction in total metal
rts was somewhat less than the 54 per cent for iron
steel mentioned above, because there were relatively
increases in imports of non-ferrous metals, due main-
the development of local foundries.

nports of building materials declined, because of a
ber of substitutions. Cement imports, for example,
almost completely eliminated.

i) *Capital goods.* The following percentage changes
nports took place:

tals: −32; building materials: −31; agricultural equipment:
industrial equipment [a] −10; transport equipment: 5; all
al goods: −6.

ery different trends are shown for different types of
pment. Imports destined for agriculture more than
bled, and this prevented a really big reduction in im-
s of capital goods. It was mainly due to a rise from
1 to 3,050 in the number of tractors imported. But
r types of equipment imports were severely restrained.
orts of transport equipment were nearly stable be-
e reductions in imports for the railways (of locomo-
s and goods wagons) almost balanced the increased
orts of buses, lorries (including chassis) and aircraft,
of spare parts for all such equipment. Changes in the
strial equipment group were dominated by declines in
orts of textile machinery, and of miscellaneous indus-
tools and machinery. This was in part the effect of
decline in industrial investment (of which it was also a
ributory cause) but some of this reduction was
ched by import substitution, with the growth of the
y industries.

) *Consumer goods.* Percentage changes were as
ws:

od: 54; clothing and textiles: −9; other non-durables: 67;
bles: −17; fuel: 84; all consumer goods: 43.

seems from these figures that there was only a slight
reduction in imports of clothing and textiles, despite
big steps towards import substitution. It should be
d, however, that consumption increased, and that the
textile production index rose by 22 per cent over
period.[38]

e rise in total food imports was due to the fact that
everal staples already mentioned (e.g. wheat, sugar and milk), local output failed to keep pace with the consumption of an expanding population, this consumption being further increased by food subsidies.

In the case of other non-durables, the effect of import substitution was seriously weakened by the great increase in materials for new industries, reflecting an increase in consumption. Economies were, however, achieved in consumer durables, and indeed it was these economies that made it possible for imports of food, other non-durables and fuel to rise so rapidly. The increased imports of fuel reflect very large increases in apparent consumption, as in Argentina, even if allowance is made for the new requirements of the heavy industries. This is from one point of view a further example of imports responding to subsidies, because public transport fares have also been subsidized.

(c) *The flexibility of imports and economic vulnerability*

This analysis shows that Chile is another interesting case-study in external vulnerability. The upward trend in copper prices has meant an upward trend in the capacity to import, and though this capacity declined at times (in 1947, 1950, 1953 and 1954), the result was never a general recession. There were three reasons for this. Firstly, a deterioration in exports meant a decline in government revenue, which was never transmitted fully or promptly to the economy by reductions in expenditure. Secondly, there has continually been heavy demand inside the economy, so that a decline in external demand has not made a very great impression internally. Thirdly, as this analysis has shown, there has been a margin of consumer goods, which could be reduced with consequences which, although at times unpleasant, have not been as damaging as the results of the restrictions on materials which Argentina was forced to impose. This margin has been preserved by far-reaching import substitution in industries producing materials such as iron and steel, petrol, paper and textile yarns.

The margin is, however, far from adequate. Food consumption is still low, and imports play a vital role in the nation's diet and in alleviating the pressure on food prices. Despite drastic restrictions on imports, and despite the far-reaching substitution of domestic production, imports have continued to rise at a pace faster than the national product, while exports have stagnated. It should be borne in mind that the real value of Chile's external income is currently about one-third below that of the period 1925-29: in contrast to the situation in other Latin American countries, such income has never regained the level of the years preceding the depression of the 1930's.

Granted the chronic weakness in export markets, the main obstacle to government economic policy for dealing with the consequences of this weakness lies in the failure of agricultural output to expand sufficiently. Whereas in Argentina the result of weakness in the agricultural sector has been a decline in the goods available for export, the consequence in Chile is an unsatisfied demand in local food markets, causing a persistent upward pressure on food prices and a large increase in food purchases from abroad. Indeed the very rise in food prices has encouraged the authorities to attempt to stabilize the price indices by the subsidization of imported staples, which, in

---

[a] ncluding mining equipment.

Actually the figure quoted is an increase over a base of
50, not 1948-50, but this would make little difference.

the absence of food rationing, was bound to stimulate imports further. Of the total increase of 59 million dollars, the rise in food imports accounted for 24 million, and food imports are now responsible for between 20 and 25 per cent of total imports, or 8 per cent of the domestic product.[39]

While imports have not been cut in Chile to levels involving a general economic setback, as in Argentina, the position is nevertheless precarious. Certain industries have on occasion been forced to slow down production because of insufficient supplies of materials. Moreover, at the end of 1955, the Government adopted a policy of deflation, severely restricting the use of bank credit. This has reduced economic activity, especially in the building industry. Inadequacy of foreign exchange also imposes on Chile a drastic curtailment of imports of capital goods, and this in turn hinders the further development of industries to produce substitutes for imports, which could ease the dilemma. With fuel, materials and staple foodstuffs now forming so high a proportion of imports, the economy would clearly be highly vulnerable to any prolonged decline in external income.[40]

3. VENEZUELA

The case of Venezuela is very different from that of Argentina and Chile. At first sight, the economic statistics might seem to indicate a fundamental similarity—rapid industrialization, a rather low rate of increase of imports, particularly in *per capita* terms, and only small increases in imports of equipment for industry and transport. These symptoms are, however, misleading in the case of Venezuela, and, to see why, the developments in the petroleum sector of the economy must be taken into account.

Although the volume of imports only expanded by 27 per cent over the period, the volume of exports rose by as much as 56 per cent. The difference between these two figures is due to the fact that a substantial inflow of capital came to an end, while remittances of profits, attributable partly to the earlier investment, rose.[41] The increase in the net outflow of capital arises as follows

	Inflow of long-term capital	*Outflow of profits*	*Net out of capita*
1948-50	191	348	157
1954-55	−20	463	483
Change	−211	115	326

Firstly, petroleum is by far the most important expor accounting for 95 per cent of total exports. This industr is highly capital-intensive, and it is controlled by foreig companies. Consequently, changes in the value Venezuelan exports are partly offset by changes in profi remitted overseas.

Secondly, the fact that the petroleum companies sto ped bringing in capital was due to a reduced level of i vestment, which meant lower imports of machinery an other equipment. Consequently the rather low rise total imports is the result of this fall in petroleum com pany imports and of a much larger rise in imports f other purposes. The following figures (annual average in 1950 dollars) show how the movement in total impor is misleading as a guide to what has happened to impor destined for the internal economy of Venezuela:

	Total imports	*Imports for the petroleum companies*	*Othe impo*
1948-50	755	161	59
1954-55	960	140	82
Percentage change	27	−13	3

For the internal economy, therefore, the rise in import was not 27 but 38 per cent, or, in *per capita* terms, not but 17 per cent.[43] This, moreover, was an increase fro a level which, even if petroleum company imports ar deducted, amounted to well over 100 dollars *per capit* by far the largest in Latin America.

This was in fact a period of rapid expansion for th internal economy of Venezuela, as is indicated by th output indices in table 95.

Manufacturing has apparently grown at a rapid rate and construction showed an even more dramatic advanc up to 1950, although it slowed down after then. Thes

---

[39] Rather more if allowance is made for contraband.

[40] Since 1955, the Government's room to manoeuvre has been further reduced by a sharp fall in the prices of copper.

[41] This does not by any means imply that investment by the petroleum companies came to an end. There was still investment financed by ploughing back profits.

[42] All figures are annual averages, in millions of dollars, deflate by import unit value indices to enable a comparison to be made i terms of 1950 purchasing power.

[43] The increase in population was 18 per cent.

Table 95. Venezuela: Production indices,[a] 1945-55

(1950 = 100)

	1945	*1946*	*1947*	*1948*	*1949*	*1950*	*1951*	*1952*	*1953*	*1954*	*1955*
Agriculture	79	82	81	90	106	100	95	105	108	122	127
Mining [b]	60	71	80	90	88	100	114	122	119	130	141
Manufacturing [c]	54	59	64	73	84	100	119	139	154	172	195
Construction	20	21	39	50	71	100	102	105	104	116	125

Source: ECLA.

[a] Provisional indices constructed by ECLA on the basis of national statistics.

[b] Almost entirely petroleum output.

[c] Since there has been no census of manufacturing, the weighting system for this index is only approximate, and it should be use with particular caution.

ises were, however, from levels which were very low. g output is still a much more influential factor in the aal product. Consequently, the structural changes 1 occurred in the economy were not so far-reaching as 95 might superficially suggest. In the manufacturing r, there has not yet been a great advance except e food-processing, clothing and cement industries.

(a) *Changes in the composition of imports*

ere have been no limits set on imports in Venezuela, herefore changes in imports closely reflect changes nand and in home production. Imports of industrial ment did not rise noticeably, and this seems hardly atible with the rapid industrialization shown by the above. (See again table 95). However, although tunately no details are available of the commodities rted by the petroleum companies, the decline in their imports must have been largely concentrated in the ment group (since this includes mining machinery), 1 would mean that imports of equipment for manu- ring rose quite considerably. It is likely indeed that, as the internal economy was concerned, imports of mer goods and of capital goods rose in about the proportion.

cing the economy as a whole, consumer goods im- still accounted for about 18 per cent of total con- tion, and imports of equipment moved parallel with ment in durable equipment (constituting 72 per cent latter), but the rise in imports of building materials er cent) was much slower than the rise in building ty (60 per cent, according to the index quoted above), y because of import substitution in cement. Despite ecline in the share of imports destined for capital ment, Venezuela remained the only country in America devoting over half its imports to this pur-

many cases, the consequence of the growth of local t was not the elimination or even reduction of im- but a slower rise in them than would otherwise have red; this might be termed "implicit" import substi- 1. At first sight the impact of industrialization on nport structure seems considerable. There is a big ast between changes in imports of materials and in those of finished products: imports of materials rose 50 per cent and of finished goods 20 per cent. The contrast for the internal economy would not be nearly so great, however: the latter figure must have been depressed somewhat by the fall in petroleum company imports. Moreover, the increase in imports of materials started from a rather low level, so that the structure of imports was not drastically altered comparing total materials with total finished goods. There was however a sharp rise in the share attributable to materials for the local consumer goods' industries (see table 96).

(b) *Analysis by commodity categories*

(i) *Finished goods.* Percentage changes in imports of finished goods were as follows:

Food: −2; clothing: −10; other non-durables 14; consumer durables: 48; fuel: 78; capital equipment: 25; all finished goods: 20.

Movements in imports were on balance slightly downward for foodstuffs which do not require further processing. This was because of increases in domestic output, even though food consumption has been rising rapidly. In all varieties of oils and fats, for example, production rose even more rapidly than consumption (despite the fact that *per capita* consumption rose by as much as 24 per cent). And although *per capita* consumption of sugar also climbed rapidly (from 18 to 22 kg *per annum*), this was covered by the rise in domestic production and refining, which led to a surplus of 20,000 tons in 1955 (some 15 per cent of local consumption).[44] Domestic rice production also replaced imports almost completely and threatened to present a similar problem of a non-dispensable surplus. Imports of meat declined sharply too, but this was not a case of import substitution in the usual sense: Venezuela has normally looked after its own meat requirements, and the need to import meat in 1948-50 was due to a purely temporary fall in output. On the other hand, the rise in cigarette production was not big enough to take

---

[44] In 1956, the surplus was 50,000 tons, and it has been difficult to export such a surplus with production costs at more than 6 dollar cents per pound. It will be noticed that sugar is treated under the heading "finished goods" here, because in 1948-50 it was imported in a fully refined condition, ready for retail sale.

Table 96. Venezuela: Structure of imports, 1948-50 and 1954-55

(Percentage analysis of total imports)

	Finished goods			*Materials*		*Total*	
	1948-1950	*1954-1955*		*1948-1950*	*1954-1955*	*1948-1950*	*1954-1955*
ner goods							
i, clothing, etc.	25	20	Food, textiles, etc.	10	15		
ables	6	7					
	1	2					
	32	29		10	15	43	45
l goods							
cultural equipment	3	4	Metals	4	4		
strial equipment	31	30	Building materials	8	7		
sport equipment	10	10					
	44	44		12	11	57	55
TOTAL	77	73		23	27	100	100

care of increased consumption, and imports were doubled. Similarly, although local production of milk rose, imports of tinned milk also increased, by 33 per cent. There was a large increase in imports of flour (63 per cent), mainly due to a rise of 34 per cent in *per capita* consumption: but this must be considered in conjunction with a decline in imports of maize. This pair of changes suggests a revolution in the people's diet, such as has been noticeable in Brazil and other countries experiencing rapid economic development.

Import substitution was more complete in certain clothing lines. Nearly all the ready-made clothing on sale in Venezuela is now produced in the country. The volume of production of finished textiles as a whole rose by well over 100 per cent.[45] Especially rapid progress has been made in synthetic textiles and mixtures. Production of rayon fabrics more than doubled, so that imports declined by 7 million dollars (over 60 per cent), and the output of rayon and nylon stockings rose over the period from virtually zero to a level adequate to cover consumption. Linen was not yet made in Venezuela, so in this case higher consumption is reflected in higher imports.

Imports of nearly all other consumer goods tended to rise. In the non-durable group, these were increases in many types, one conspicuous case being sports goods, imports of which nearly double. Among durable goods there was a big rise in imports of cars (from 21 million dollars to 39 million).

It may seem odd that fuel imports into Venezuela rose so rapidly. This is mainly due to the increased consumption of some petroleum derivatives, not produced locally. This rise was large in relative, but not in dollar, terms.

(ii) *Materials.* Percentage changes in imports of materials were as follows:

Food: 71; textiles: 33; other non-durables: 97; metals: 16; building materials: 20; all materials: 50.

The increased imports of unprocessed foods and textiles reflect the increase in local processing discussed above, as well as the growth of consumption. For example, imports of coconuts and sesame seeds were increased to replace imports of edible oils, and imports of raw tobacco rose four-fold in order to expand cigarette output. There was a slight rise in wheat imports to meet the demands of domestic flour mills, because of the further decline in Venezuela's already small wheat output.

In textiles there were increases in synthetic yarn imports to meet part of the extra requirements of the processing industries, and also in imports of cotton yarns, since the increase in the output of the spinning industry (from 165 tons to 939 tons), big though it was, did not nearly meet the requirements of the weavers. Imports of raw cotton, however, fell sharply, as domestic output doubled, and in fact a surplus of raw cotton was also threatening at the end of 1955.

Imports of other materials for making consumer goods increased sharply, e.g. newsprint (doubling), other papers and boards (trebling), rubber (trebling). Import substitution was on a very small scale in such fields. There we also increases in most metals, but in the absence of a engineering industry, these were fairly mild. The rise imports of building materials was kept to a low figure b the virtual elimination of cement imports (at a saving over 7 million dollars), despite the big increase in co struction. A rise of over 50 per cent in cement consum tion was met by an expansion of local output from 338,0 to 1,248,000 tons. The increase in paint output was rel tively still larger, from 2,100 tons to 14,900, but impor only declined by one-third, because of the great increas in consumption.[46] These import economies in cement an paint nearly offset the large increases in imports of oth building materials (e.g. electrical accessories, sanita fittings and plate glass).

(iii) *Capital goods.* Percentage changes in imports capital goods were as follows:

Metals: 16; building materials: 20; agricultural equipmen 78; industrial equipment: 20; transport equipment: 24; all capit goods: 23.

This shows a fairly even development, with the so exception of agricultural equipment, though it should b recalled that the rise in imports of industrial equipme for the internal economy must be substantially great than is shown here, because of a decline in purchases equipment by the mining companies which is include here in the industrial category.

Within the transport group, particularly large increase (over 100 per cent) occurred in the cases of aircraft an radio transmitters, although the rise in commercial v hicle imports was only moderate, and imports of boa fell.

(iv) *Consumer goods.* Percentage changes were follows:

Food: 8; textiles and clothing: —3; other non-durables: 5 durables: 48; fuel: 78; all consumer goods: 32.

The net result in the case of both food and textiles that imports hardly changed. There was import subs tution not in absolute terms, taking these groups as whole, but in the sense that increased local output was and large sufficient to take account not merely of t growth in population but also of rising *per capita* co sumption.

Per capita consumption of cereals, sugar, milk and o and fats all increased (and, among cereals, wheat part replaced maize as a staple). So far as the major foods a concerned, only fish consumption seems to have decline Production of some goods rose enough to cause absolu reductions in imports. This applies both to primary co modities (sugar and rice) and to processing (oils and fat Similarly, local industry coped with a rise of over 50 cent in the *per capita* consumption of textiles. The effect of rises in imports of cotton yarns and declines imports of finished clothing, especially rayon product, a small decline. Local output was much more limited the other groups, however, and the effect of its grow was outweighed by the rise in consumption.

---

[45] The index averaged 228 in 1954-55 (1948 = 100). In 1949 and 1950, output had declined, so the increase over 1948-50 was even greater than this indicates.

[46] The figures include pigments which are raw materials to paint-making industry. Imports of finished paints did decl sharply.

Flexibility of imports and economic vulnerability

e main feature of Venezuelan experience was that ncreased volume of petroleum exports was sufficient ermit a big increase in imports, despite the increased ttances of profits by foreign companies and the tem- ry halt in the inflow of capital.[47] Moreover, domestic ut was highly responsive to increased demand, both ertain manufacturing industries and in agriculture. equently, the rapid rise in the consumption of food, les and building materials could be satisfied without ncreases in imports, and the bulk of the increased city to import could be devoted to the materials, fuel capital requirements of the expanding industries, still ing enough extra foreign exchange to allow big in- ses in imports of luxury goods.[48] This rise, particu- in imports of consumer durables such as cars, is ficant, because it shows that the margin between the city to import and the tolerable minimum level of orts has expanded, not contracted.

ne question of whether one considers the Venezuelan omy vulnerable depends on which factors one hasizes. Because the structural changes in the econ- have been limited, the national product of Vene- a still depends very largely on exports, and indeed on export: petroleum. So the economy remains definite- op-sided. This commodity has been favoured by a ng market since the Second World War, because the d income-elasticity of demand for petroleum is high there is also apparently a rising trend of consumption, pective of income as witness Argentina and Chile, but uncertain how much a recession in world trade would ct petroleum, and in particular Venezuelan petroleum. uld exports decline, however, part of the loss would be rbed by a fall in the profits of foreign companies. he event of a serious decline in the capacity to import, e would be many possibilities of reducing imports re it became necessary to cut into staple foods and erials.

lthough, therefore, its income might well be highly itive to a recession in world trade, as was shown on a or scale in 1949, Venezuela would not, for some time, orced into the position of Argentina, of having, by ationary policies and import cuts, to restrict output he internal economy as well. Indeed, since Venezuela developed primary production (e.g. cotton and sugar) vell as secondary, the output in domestic industries d be expanded without a heavy cost in foreign exchange. In this sense—that it has the possibilities of taking countervailing action—Venezuela is not highly vulnerable to short-period economic fluctuations.

4. Brazil

Brazil has followed policies which have had the effect of taxing exports to subsidize certain imports, while at the same time affording indirectly a good deal of protection to local industry. The similarity to the policies pursued in Chile is strong.

The technique used to achieve these ends changed, however, during the period under study. From 1948 to 1953, imports were licensed and luxuries were strongly discouraged. The exchange rate was pegged at a level which gave limited incentive to exporters, but meant big profits for those who obtained import licences, except in the case of basic controlled commodities such as wheat and petroleum. The consumption of such indirectly subsidized commodities was stimulated.

Towards the end of 1953, a new system of control was introduced. Both exports and imports were divided into classes—three for exports and five for imports. The export exchange rates were administered in such a way as to encourage exports of manufactures, while imposing a less favourable rate of conversion for the proceeds of primary exports, amounting to an export duty. For each of the five categories of imports, blocks of foreign exchange were auctioned to importers (at a certain minimum price). What emerged was a system of multiple (and fluctuating) exchange rates, for imports as for exports, with higher rates for luxuries. Wheat, certain materials and agricultural machinery were allotted a specially favourable rate of exchange outside the system. This reform transferred a good deal of the importers' profits to the Government and reduced surplus demand.[49]

Income rose sharply, due to the big increase in the price of coffee, especially in 1954 (when the crop was poor), the average value per ton exported rising from 641 dollars in 1948-50 to 1,213 in 1954-55. Since the exchange controls, particularly in the earlier period, had a protectionist effect, the consequence was a considerable stimulus to local manufacturers. Manufacturing output in Brazil has risen swiftly; it has doubled in a decade. (See table 97.) But this has not precluded a marked increase in agricultural output as well, in response to heavy demand and rising prices.

The rise in agricultural output would appear to have been even faster if exports were excluded, and the index

Table 97. Brazil: Production indices, 1945-55

(1950 = 100)

	1945	*1946*	*1947*	*1948*	*1949*	*1950*	*1951*	*1952*	*1953*	*1954*	*1955,*
culture	83	89	86	93	97	100	101	109	109	117	127
ufacturing	63	72	75	83	88	100	109	115	119	133	138

Source: Revista Brasileira de Economía.

One should also mention the rising debit in the services on of the balance of payments in this connexion, since it is due he expansion of expenditure by Venezuelan tourists, and can onsidered a rise in "invisible" imports attributable to higher ry consumption.

Since 1955 a number of new concessions have been allotted the flow of capital has resumed.

[49] The tendency since 1955 has been to simplify the structure of exchange rates, and a proposal is now being considered for further drastic simplification, simultaneous with the introduction of a new tariff. The effect of these changes would be to substitute customs duties for Government profits from exchange transactions.

referred only to production for the home market, since the volume of exports actually fell somewhat, owing mainly to the poor coffee crop of 1954.

Despite the fall in export volume, Brazil shows a big increase (over 40 per cent) in the capacity to import. This was partly attributable to the inflow of capital in 1954-55, in contrast to a considerable outflow in 1948-50, but mainly to the great improvement in the terms of trade. However, for Brazil 1954-55 were still years of foreign exchange shortage. The reason was that, in the years 1951 and 1952, import quotas had been raised and the sharp rise in imports (especially of capital equipment) had not been covered by exports. Imports were cut back in 1953, and even when the price of coffee rose in 1954, part of the increase in external income had to be reserved to pay off outstanding trade debts. So imports were still relatively rather low in 1954, and the averages for 1954-55 were affected by the continuing influence of import restrictions. On the other hand import inventories were in many cases still heavy at the beginning of 1954, and a substantial proportion of the country's capital goods was quite new. So the restrictions were not so severe in their effect as they might have been.

Moreover, despite these restrictions, the rise in the volume of imports amounted to 35 per cent, which was almost as fast as the rise in the domestic product (37 per cent) and represented a big increase in *per capita* terms (about 19 per cent). In fact, what with the decline in the volume of exports and this big increase in the volume of imports, the supply of goods available in Brazil rose even more remarkably (by 54 per cent).

(a) *Changes in the composition of imports*

Imports therefore fell, not in absolute terms, but relative to total supplies on the market. This fall was concentrated in capital goods. Imports of capital goods were restricted to an extent that sharply reduced the proportion of capital expenditure attributable to imports, although it must be remembered that such imports had been very heavy in 1951 and 1952. The rise in consumption, on the other hand, outstripped domestic output, and the proportion of imports in total purchases of consumer goods rose. (See Table 98.)

Imports of finished capital equipment hardly increased at all, whereas imports of materials (especially crude petroleum and wheat) rose sharply. This involved a big shift in the import structure in both planes: imports of consumer goods rose more than imports of capital goods (47 per cent as against 19 per cent), and imports of materials much more than imports of finished products (74 per cent as against 15 per cent). The main consequence was that the share of finished goods in imports dropped sharply, although the share remains rather high (57 per cent), in view of the degree of industrialization.[50] (See table 99).

---

[50] Compare Argentina (35 per cent), Chile (51 per cent) and Uruguay (48 per cent).

Table 98. Brazil: Economic aggregates and imports, 1948-50 and 1954-55

(Millions of dollars at 1950 prices)

	Domestic product	*Consumption*	*Investment*	*Imports*			*Imports as percentages*		
				Total	*For consumption*	*For investment*	*Total*	*Consumption*	*Investment*
1948-50	9,566	6,992	1,243	1,038	585	452	10.8	8.4	36.4
1954-55	12,898	9,488	1,790	1,401	863	538	10.9	9.1	30.0
Percentage change	35	36	44	35	48	19			

Source: *Revista Brasileira de Economia.*
Note: Between 1948 and 1955 the population increased by 14 per cent.

Table 99. Brazil: Structure of imports, 1948-50 and 1954-55

(Percentage analysis of total imports)

	Finished goods			*Materials*		*Total*	
	1948-1950	*1954-1955*		*1948-1950*	*1954-1955*	*1948-1950*	*1954-1955*
Consumer goods							
Food, clothing, etc.	11	10	Food, textiles, etc.	25	29		
Durables	8	3	Crude petroleum	—	3		
Fuel	12	16					
	31	29		25	33	56	62
Capital goods							
Agricultural equipment	4	4	Metals	5	6		
Industrial equipment	20	16	Building materials	4	4		
Transport equipment	10	8					
	35	28		9	10	44	38
Total	66	57		34	43	100	100

(b) *Analysis by commodity categories*

Finished goods. Percentage changes in imports of
d goods were as follows:

.: 32; clothing: —95; other non-durables: 88; consumer
s: —56; fuel: 72; equipment: 8; all finished goods: 15.

s shows the sort of pattern which has become famil-
the case of Argentina and Chile: heavy declines in
ts of consumer durables and clothing, little change
orts of equipment, a moderate increase in imports of
and a large increase in imports of fuel and other
ırables.

he case of Brazil, however, these changes occurred
t the background of rapid increases in consumption.
refining illustrates the case well. The production of
eum derivatives trebled, rising from 70 million
n 1948-50 to 206 million in 1954-55, but even in the
year this accounted for only a small fraction of
consumption, and imports rose from 3,497 to 6,199
ı litres over the same period.[51]

rise in imported foods ready for consumption
d a number of items; fresh fruit, cod and olive oil
ajor instances. These rises were fairly substantial,
ing improved living conditions. But domestic
milling increased enough to reduce imports by 20
nt, and this limited the rise for the group. Although
duction in clothing imports appears spectacular, it
reduction from a level already very low (less than
cent of the country's imports in 1948-50). The
step still to be taken was the virtual elimination of
ts of linen fabrics. The outstanding feature of the
se in imports of other non-durable consumer goods
rise in the imports of antibiotics, from 4 to 31
ı dollars.

decline in consumer durables affected almost every
n this category. Imports of motor cars were re-
from 39 million to 15 million dollars. Since there
irtually no import substitution, the result was a
ılsory cut in consumption, although the effect on
ing was mitigated by the increased importation and
production of spare parts. Car manufacture was also
ing on a small scale.[52] In other cases, large reduc-
in imports were partly or wholly balanced by in-
s in local manufacture (e.g. bicycles and batteries).

ipment imports rose only very slightly for reasons
explained below.

result of these changes in different directions was
total imports of finished goods increased only
y.

Materials. Percentage changes in material imports
as follows:

.: 69; textiles: —33; other non-durables: 68; crude petro-
; metals: 67; building materials: 55; total materials: 74.

ıde petroleum imports were zero in 1948-50.

Imports of crude petroleum rose from virtually zero in 1948-50, when Brazil had not commenced refining, to 48 million dollars in 1954-55, when they amounted to over 3 per cent of all imports. This is another case, like that of Argentina and Chile, where crude production has lagged behind refining, so that, although extraction has increased, there has been a larger rise in the imports.[53] The figures for production and imports of crude petroleum are as follows:

	1948-50	*1954-55*
	(Thousands of tons)	
Production	26	196
Imports	4	1,824
Apparent consumption	30	2,024

Just as extraction has lagged behind refining of petroleum, wheat growing has failed to provide for the great expansion of flour-milling, due to the increasing use of wheat as a staple food (encouraged by what was in effect a subsidy). Both wheat growing and milling approximately doubled, so that the gap between the production and consumption of wheat widened in terms of tonnage but not as a ratio of consumption.

	1948-50	*1954-55*
	(Thousands of tons)	
Imports	781	1,547
Production	458	986
Apparent consumption	1,239	2,533

At the same time imports of flour fell from 258,000 to 209,000 tons, in terms of wheat equivalent, so that the rise in imports and apparent consumption was not quite as great, in dietary terms, as these figures suggest. This doubling of wheat imports constituted an increase of 68 million dollars, representing virtually the whole of the rise in this food category. Wheat imports alone accounted in 1954-55 for nearly one-tenth of all Brazilian imports, costing 138 million dollars.

In textiles, however, substitution was more complete. Imports of greasy wool and jute were eliminated, and those of woollen yarns fell despite higher consumption. These changes outweighed the increase in linen yarns attributable to the replacement of linen fabrics discussed above. For the most part the imports of materials for other consumer goods industries increased quite sharply. Local production of newsprint did not rise, for example, and imports, helped by a particularly favourable exchange rate, more than doubled. Although Brazil is largely self-sufficient in other types of paper, the increased output of these papers required a big expansion of pulp imports. There were also large increases in imports of rubber and of basic chemicals, notably fertilizers and compound gases.

Developments in the iron and steel industry were similar to those in other industries: local output rose by 90 per cent, but could not keep up with consumption, so

---

ore recently, however, the increase in refining has been
accelerated. In 1956, the refineries produced about two-
of the country's consumption.

ans were drawn up in 1956 to increase production by stages,
reach an output of 130,000 cars annually by 1960, with
per cent (by weight) of the materials for their manufacture
produced in Brazil.

[53] There has recently been an acceleration in extraction, as in refining. Production of crude doubled between 1955 and 1956. But this still means that domestic output accounts for only a small proportion of the total consumption.

imports rose by even more (108 per cent).[54] This rise was particularly concentrated in the primary products, imports of which climbed from 6 to 32 million dollars, but there were increases in imports of all types of manufactures as well (shapes and structural steel, pipes and tubing, wire and tinplate). There were also fairly substantial increases in imports of non-ferrous metals.

In cement, however, Brazilian industry was more successful in keeping pace with demand. Although consumption went up by some 75 per cent, local production, which already accounted for the bulk of needs, doubled, and imports fell slightly. But imports of other building materials mostly rose.

It can now be seen how much the rise in imports was concentrated in a few basic commodities. Of the rise of 264 million dollars in total imports, 258 was attributable to materials, and, within this total, wheat, crude petroleum and iron and steel accounted for 160. These were, moreover, all cases in which Brazil greatly expanded its own output, but failed to keep pace with even faster increases in domestic needs.

(iii) *Capital goods.* Percentage changes were as follows:

Metals: 67; building materials: 55; agricultural equipment: 35; industrial equipment: 7; transport equipment: −1; all capital goods: 19.

Imports of capital equipment were held firmly in check in 1954-55. Imported building materials rose nearly parallel with constructional activity, which increased 65 per cent. On the other hand, investment in durable equipment rose only 25 per cent, largely due to the shortage of foreign exchange, since imports form a large part of the value of such investment. This low rise is however somewhat misleading. Owing to favourable treatment under the new exchange regime, imports of agricultural equipment, especially tractors, rose considerably (the latter from 13 million to 34 million dollars). Moreover, imports of several types of industrial and transport equipment also increased sharply (e.g. processing machinery for raw textiles, metal-working machinery, machine-tools and railway rolling stock[55]), and declines in imports of various types of textile machinery were to some extent offset by greater domestic output. Finally, since the 1951-52 rise in imports had been very largely concentrated in industrial and transport equipment, the big reductions in some lines shown by comparing the two separate averages were not nearly as serious as they might seem to be. For example, in judging the reduction of 30 million dollars (nearly 60 per cent) in imports of commercial vehicles, weight should be given to the fact that, because of the very recent heavy imports, the age of the Brazilian lorry park in early 1955 averaged under 6 years.

(iv) *Consumer goods.* Percentage increases in imports of consumer goods were as follows:

Food: 56; clothing and textiles: −63; other non-durabl 71; durables: −56; fuel: 109; all consumer goods: 48.

Taking all stages of production together, it can be see that food imports rose very heavily, despite the impo substitution in the case of flour. But for wheat, howeve the rise would only have been small. In the textile grou substitution was much more effective. The substitutio within linen had only a small net effect, the rise in impor of yarns nearly matching the decline in fabrics; but i other fields, despite the increase in consumption, impor were almost eliminated. Other non-durables rose, bot in finished form and also as materials, because of th slight effect of import substitution. It is interesting t note how much more reluctant the authorities have bee to discourage the use of foreign exchange on imports o this sort than of cars and other finished durables. The ris in fuel, responsible for half the increase in all consume goods imports, in spite of the programmes for expandin production and refining of local petroleum, also shows u conspicuously in this table.

(c) *The structure of imports and external vulnerability*

As with Venezuela, justification could be found fo saying either that Brazil is highly vulnerable or that it i fairly invulnerable. The balance of considerations, how ever, presents a different picture. Although the shortag of foreign exchange was not so severe that industry had t be starved of materials, the growth of domestic demand particularly for food products and fuel, outstripped loca production, and created a demand for imports that coul only be satisfied, in 1954 and 1955, at the cost of foregoin imports of some sorts of capital equipment. In addition the expansion in the capacity to import has been largel due to the rise in the price of one commodity, and a growing number of countries are being tempted to grow coffee or to grow more of it.

On the other hand, exports form a rather small propor tion of national output (about 10 to 12 per cent). More over, although domestic output in important sectors, such as petroleum production and refining, wheat growing an iron and steel manufacture, fell behind domestic demand it must not be forgotten that this deficiency appears wors because of the extent of the rise in demand. There was fairly complete substitution in other lines, namely textiles and cement, despite the rise in consumption. There has also been at times a relatively wide margin of inessentia imports, which could be contracted when the balance-of payments situation proved difficult.

At all events, the domestic economy could be more or less adequately protected from the effects of the variation in the price of coffee, violent though these were. Total income from external sources fell 15 per cent in 1948, 25 per cent in 1952 and 6 per cent in 1955, in each case relative to the previous year. When exports declined, imports of consumer goods were reduced, like imports of capital goods, but when exports improved, both were allowed to recover. These movements in consumer goods imports largely offset the fluctuations in personal incomes from exports, which were themselves mitigated by the Government's manipulations of the exchange rates for exports. Thus industry could grow steadily, suffering neither from a great recession in demand when export

---

[54] Not only did imports rise by 43 million dollars, but exports of the same commodities, which had averaged 10 million dollars in 1948-50, were only 1 million *per annum* in 1954-55.

[55] In the case of rolling stock, local industry had the capacity available but was unable to meet foreign competition at the rather unrealistic foreign exchange rates used. Domestic sales of rolling stock have grown considerably since these rates were changed.

Table 100. Mexico: Production indices, 1945-55

(1950 = 100)

	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955
lture	68	71	73	82	88	100	102	98	108	126	136
. . . .	89	74	94	89	90	100	99	108	108	108	121
acturing	75	80	79	85	91	100	119	114	115	121	134

urce: ECLA, on the basis of national statistics.

es fell nor from over-stimulation when they rose. scribe the sequence of events in this way exaggerates xtent to which it was the result of a deliberate gy: in fact this sequence of events was the result of a of separate decisions, each taken in response to the of the moment. Imports of capital equipment rose y high levels during boom periods, and they could be cut back temporarily without excessive damage. in 1954-55 they accounted for 28 per cent of all ts.

l the low levels of imports of clothing and consumer les show that the margin for further saving was not in 1954-55. Nor will it be much greater today. weight must also be given to the commitments has entered into for amortizing its debts, which ent a fixed lien on exports. Again, in view of the pable need to import wheat, industrial materials and nery replacements, it appears that a decline in the ity to import, which was of more than moderate sions, will raise awkward problems for the Govern-

5. Mexico

xico also shows large increases in both agricultural anufacturing output since the War. (See table 100.)

rise in agricultural output has been, if anything, than the rise in manufacturing output, and although g has rather lagged behind, the share of manufactur- the national product has not increased. Mexico has a country in process of industrialization in the sense n absolute, but not a relative, growth of manufac- has occurred. The rapid growth of agricultural t has been, at least in part, the result of Government . Alongside measures to encourage industry, the nment gave irrigation and flood control policy a priority in the public works programme, used public to channel savings into agricultural investment, lated technical research and publicity, and helped evelopment of ancillary industries producing ferti- and agricultural machinery.

her agricultural output was the major factor contri- g to a large increase in the volume of exports between 50 and 1954-55 (45 per cent). Combined with an sion of 53 per cent in the tourist industry, and an vement in the flow of long-term capital, these es outweighed the effect of the deterioration in the of trade and raised the capacity to import by 45 ent. Imports actually rose by 40 per cent, which lmost identical to the increases in domestic output r cent) and in the volume of manufacturing (39 per cent). These changes can be compared with a rise of about 16 per cent in the population.

The nearly parallel trends of the main economic indicators meant that the origin of available goods and services (which also rose by 39 per cent) did not change greatly: 22 per cent was imported in both periods. Since domestic production and imports both expanded so much, import substitution, in the sense of a rise in domestic output large enough to cause an actual reduction in imports, was relatively rare, as in the cases of Venezuela and Brazil. Import substitution considered, however, as including cases where imports would have risen further but for the expansion of domestic output, has been rather more common here too.

In one important respect, Mexico's experience has been different from that of the countries studied above. The authorities have relied mainly on periodic devaluation of the currency rather than on exchange controls, to prevent a loss of foreign exchange reserves. The peso, which had remained stable at 4.86 to the dollar for some years, was devaluated in 1948 and 1949, dropping to a level of 8.64, which was kept stable for some years, until it was reduced again, in 1954, to 12.49. The result of each devaluation was to raise export incomes (in pesos) virtually *pro tanto*, since the prices of most exports are set in external markets which are not sensitive to changes in the value of the peso. This afforded a great stimulus to exports. First, export prices rose relative to other prices, encouraging the diversion of products into export markets, and stimulating, and providing the resources for, the development of export industries. Moreover, since the Government appropriates part of the improvement in export incomes through export duties, a further consequence was a considerable improvement in the budgetary position, the deficit being eliminated in 1949, and, after re-appearing in the meantime, being considerably reduced in 1954. This encouraged the continuation of an expansionist policy. Since much public investment has been designed to help, directly or indirectly, the development of agriculture, its expansion meant a further stimulus to exports. The volume of agricultural exports, especially cotton (and, to a lesser extent, coffee), rose sharply, offsetting the deterioration in the terms of trade. Tourist trade has also been stimulated by the devaluations.

Another consequence of the changes in the exchange rate was a rise in the price of imports (relative to domestic costs of production), which has been a great stimulus to import substitution. While the continued growth of domestic output did not in many cases actually lead to a reduction of imports, this was because of the pace at which demand grew.

Table 101. Mexico: Economic aggregates and imports, 1948-50 and 1954-55[a]

(Millions of dollars at 1950 prices)

	Available goods and services			*Imports*			*Imports as percentage of goods and services*		
	Total	*Consumption*	*Fixed invest.*	*Total*	*For consumption*	*For investment*	*Total*	*Consumption*	*Investment*
1948-50 . . .	5,080	3,976	686	532	272	261	10.5	6.8	38.0
1954-55 . . .	7,091	5,534	957	745	399	346	10.5	7.2	36.1
Percentage change . .	40	39	40	40	47	33			

Source: ECLA, on the basis of national statistics.

[a] Between 1948 and 1955 the population increased by 16 per cent.

(a) *Changes in the structure of imports*

As in the other cases studied, imports of consumer goods formed a higher proportion of total imports in 1954-55 than in 1948-50. (See table 27.) They rose by 47 per cent, compared to 33 per cent for capital goods. In this case, as in the other cases studied (except Argentina), they rose faster than total consumption, and imports of capital goods, as elsewhere, formed a declining share of fixed capital investment.

One explanation is that domestic output of capital goods or, more accurately, materials and intermediate products to be used for investment, has been rising rather rapidly, because of the growth of the iron and steel industry. The production index for goods of this type rose by 63 per cent, as against an increase of only 29 per cent for the output of consumer goods, over this period. Furthermore, at least so far as 1954 was concerned, the economy had not recovered fully from the recession of 1952 and 1953, and investment requiring heavy imports remained rather low. After the devaluation of April 1954, a radical change took place, and between 1954 and 1955 imports of capital goods rose by 18 per cent, as against an actual decline in imports of consumer goods (of 1 per cent). So the picture would look quite different if 1954 were left out of the latter period.[56] Moreover, even including the results of 1954, the rise in consumer goods imports would have been smaller than in imports of capital goods, but for fuel. In fact, the difference between changes in imports of consumer goods and those of capital goods does not warrant the assertion that there is a marked trend to imports of consumer goods in the case of Mexico.

The most striking feature of Mexican experience has been that it alone, of the eleven Latin American countries in process of industrialization, shows a more rapid rise in the imports of finished goods than of materials. (Imports of finished goods rose by 44 per cent, as against 33 per cent for materials). This is partly because imports of food ready for consumption (such as maize and eggs) rose, while imports of wheat fell sharply, which balanced the more customary development in textiles, namely a rise in material imports and a fall in imports of finished products. But more important reasons are, first, that industrial output only rose moderately, compared to total output, and secondly, that within the industrialization programme emphasis was put on the development of basic industries producing metals, chemicals and building materials. S imports of materials rose more slowly than did manufacturing output.

It is interesting that Mexico, which shows relatively n industrialization, also shows little or no change in th composition of imports along the consumer goods/capita goods axis, and a change, as between materials an finished goods, opposite to that which is expected. (Se table 102.) The country has already a fairly sizabl industrial sector, and, as will be seen, a shortage of foreig exchange. The further growth of manufacturing did in duce some of the changes in the composition of import experienced elsewhere. In Mexico, however, thes changes had a marginal effect only. The general structur of imports remained virtually the same for Mexico, alon of the major countries with rapidly growing industries It retained the most notable feature in its import structure: a heavy emphasis on imports of capital equipmen Only Venezuela, of the countries in Latin Americ devoted a higher percentage than 38 to this in 1954-5

(b) *Analysis by commodity categories*

(i) *Finished goods.* Percentage changes in finishe goods imports were as follows:

Food: 143; clothing: —44; other non-durables: 21; consum durables: 12; fuel: 157; equipment: 39; all finished goods 4

The rise in foods ready for use was large in relati terms, but in fact amounted to only 20 million dolla because imports of this sort had been small (14 milli dollars) in 1948-50. Maize, eggs, and beans accounted f the rise. Imports had been virtually non-existent 1948-50 and totalled 12 million, 5 million and 3 milli dollars respectively in 1954-55. The same was true of t fall in clothing imports, which seem large but amount to only 4 million dollars, because the country was alrea largely self-sufficient. In regard to other consumer good there was little saving of imports as a direct consequen of the growth of domestic industry, but the intensity the growth was sometimes indirectly apparent. F example, the rise in imports of pharmaceutical produc was far smaller in Mexico (25 per cent) than in oth Latin American countries, and this was because of t

---

[56] In 1956, the share of capital goods in total imports rose again.

Table 102. Mexico: Pattern of imports, 1948-50 and 1954-55

(Percentage analyses of total imports)

	Finished goods			*Materials*		*Total*	
	1948-1950	*1954-1955*		*1948-1950*	*1954-1955*	*1948-1950*	*1954-1955*
ner goods							
l, clothing, etc.	11	11	Food, textiles, etc.	28	29		
ables	8	6					
	4	8					
	23	25		28	29	51	54
l goods							
cultural equipment	4	4	Metals	5	4		
istrial equipment	24	23	Building materials	6	4		
isport equipment	10	11					
	38	38		11	8	49	46
TOTAL	61	63		39	37	100	100

ishment of several laboratories and factories in years.[57]

vill be noticed that imports of consumer durables only moderately. This is rather unusual; in other as has been seen, either consumer durables bore the of import restrictions (Argentina, Chile and Brazil) mports were not restricted, this group showed a very increase (Venezuela, and even more so, the case still considered, Peru). Mexico actually shows both trends at the same time. There were big increases, nly in a few commodities. Imports of sewing-nes, and of sub-assemblies to enable radio sets, phones and bicycles to be made locally, rose rapidly, he growing popularity of television added a new item e import schedules, representing more than 2.5 n dollars annually in 1954-55. Motor cars, on the hand, were restricted; imports of fully assembled eclined slightly (from 20 to 19 million dollars), and mports of engines and other sub-assemblies for local facturing plants remained almost unchanged, the (established by foreign firms) continuing to operate low capacity. Finally, imports of electrical house-ppliances were beginning to suffer, by 1955, from owth of domestic output. So the net rise of 12 per n imports of consumer durables was a result of very gent movements. In every major commodity the as much larger, or else there was a decline.

striking feature of developments in Mexican im-is the fact that the commodity showing the sharpest or this petroleum producer, was fuel. Although stic output of petroleum derivatives grew by 47 per from 54 to 79 million barrels), this did not quite pace with demand, and imports grew more rapidly Another reason is that a small but growing market nited States exporters is assured by the fact that in rthern frontier zones it is much cheaper to transport rom the other side of the border than from the an producing areas. It should also be borne in mind hese imports allowed exports of crude petroleum to panded.

large rise in imports of finished goods reflects mainly, however, the increase in imports of equipment, since this is by far the largest item. It accounted for nearly two-thirds of all imported finished products in 1948-50. The reasons for this rise will be considered in detail below.

(ii) *Materials.* Percentage changes in material imports were as follows:

Food: 64; textiles: 17; other non-durables: 74; metals: 11; building materials: 10; all materials: 33.

For several years, agricultural policy has encouraged the development of wheat farming, and during the period considered here output rose by 326,000 tons, namely from 545,000 to 871,000. This would have eliminated imports, which had averaged 318,000 tons in 1948-50, but for the increase in consumption. As it was, wheat imports fell to 37,000 tons, representing a saving of 20 million dollars (at 1950 prices).[58] In other commodities, experience was different. Tobacco output, for example, only rose by about one-tenth, and imports of tobacco were doubled. Still, wheat was responsible for over 80 per cent of imports under this heading in 1948-50, and the big fall of wheat imports far outweighed such increases in other commodities.

The increase in textile imports was due to the growth of domestic processing industries and includes an increase in imported tyre fibres. The next category, covering other materials for consumer goods, is a large one for Mexico. It represented over 100 million dollars' worth of imports in 1948-50, or about one-fifth of all imports. Where there was no domestic production, imports rose sharply: imports of rubber, for example, nearly doubled. It is true that newsprint imports did not rise much, but in 1954-55 Mexico was still drawing on inventories built up in 1952 and 1953.[59] There were big advances in Mexican output of light consumer goods, but they were generally inadequate to keep pace with consumption. Although factories of papers and boards, for instance, doubled their output, imports also rose, and so did imports of chemical pulp for

---

nports of pharmaceuticals actually declined in 1956, even total imports continued to rise rapidly.

[58] Imports rose again in 1956 to 91,000 tons, despite a big further increase in production (to over one million tons). This seems to have been due to increased imports into the frontier zones, which are difficult to supply with wheat (as with petroleum).

[59] Annual imports, which were 51,000 tons in 1948-50, rose to 74,000 in 1952-53, and fell back to 61,000 in 1954-55.

paper-making.[60] The most striking case of a large increase in domestic output failing to arrest a large rise in imports is that of fertilizers, the expanded use of which reflects the forceful programme of agricultural development:[61]

	1950	*1955*
	(Thousands of tons)	
Production	67	194
Imports	19	123
TOTAL	86	317

Throughout the chemical industry, however, output was starting to check the growth of imports, or to replace them, at all stages of manufacture. Chemical production in 1954-55 was about 2.4 times the level of 1948-50 and still climbing rapidly. Making use of the soaring local output of sulphur,[62] the producers of sulphuric acid, an important material for many chemical industries, especially those manufacturing fertilizers, raised their production from 33,000 tons in 1947 to 125,000 tons in 1954.[63] In aniline dyes, output has grown so much that Mexico has eliminated imports.[64] But for this progress in chemicals, material imports would undoubtedly have risen a great deal more than they did.

Metals show a varied picture. In some cases, output lagged behind consumption, and imports rose, following the trend shown by most other commodities. Output of rolled ferrous products rose by 58 per cent, but imports increased by 166 per cent; and imports of pipes and tubing rose by 55 per cent.[65] Imports of steel rails, however, were reduced, thanks to a rise in home production.[66] Another major increase was in pig iron imports.

Mexico has been self-sufficient in cement for some time. During the past fifteen years, output has risen fivefold, covering the great expansion of domestic demand and permitting exports to neighbouring countries.

(iii) *Capital goods.* Percentage changes in capital goods imports were as follows:

Metals: 11; building materials: 10; agricultural equipment: 29; industrial equipment: 32; transport equipment: 58; all capital goods: 33.

One or two cases of import substitution for finished capital goods have appeared. Production of electric motors was started, for example, reaching 3,000 units in 1954 and 6,000 in 1955; and the output of electric transformers and commutators has risen, checking the increase in imports. But such possibilities of substitution were exceptional, and practically the full force of the increased demand for investment goods, mainly effective in 1954, was diverted into a demand for imports.[67] One-third more tractors was imported (and imports of spare parts for tractors rose by 80 per cent); imports of industrial and mining machinery climbed from 11 million to 46 million, over fourfold; and imports of commercial vehicles rose nearly 80 per cent. In nearly all cases, moreover, these rises were on top of levels which were already high.

(iv) *Consumer goods.* Percentage changes in consumer goods were as follows:

Food: 5; clothing and textiles: —7; other non-durables: 6 durables: 12; fuel: 157; all consumer goods: 47.

Food and textiles both show that the combined result of higher consumption and further import substitution was to leave imports virtually unchanged. In food, this was due to the great increase in wheat production, which released foreign exchange for increased purchases of other foods. The balance in textiles reflected a further growth of local manufacturing, and the saving in imports of finished goods just outweighed the increased consumption of materials. The total of other non-durables rose sharply because of the relatively low development in this sector at least until recent years, by comparison with the rest of the economy.

(c) *Import flexibility and economic vulnerability*

Because much of the import substitution has been in essential commodities, such as wheat, iron and steel, and basic chemicals, the process of industrialization has not been associated with a rapid expansion in imports of staple foods and materials, and there are none of those signs of rigidity in the import structure which are now so noticeable elsewhere. A temporary setback in export markets could be met by reductions in the imports of a wide range of goods before it became necessary to cut imports of materials for industry.

Mexico has in fact been able to cope with such temporary setbacks in recent years, and to maintain an expansionist policy. The economy has not, however, by any means been insulated from fluctuations in external income. Because the structural economic changes have been limited, it is not less dependent on foreign trade. Moreover, other fluctuations have been superimposed on those of exports. Public investment depended to some extent on export duties, and private investment traditionally depends in Mexico partly on the strength of public investment. So investment has shown, with some time lags, the same fluctuations as exports.

However, the growth of the economy has been so strong that these fluctuations have only caused temporary pauses in the growth of the domestic product, rather than actual declines. Virtually self-sufficient in fuel, with ultural output expanding at the same time that on of basic manufacturing industries has been g a foundation for further industrialization, possesome gold reserves, and yet less dependent than many ries on a single export, Mexico is in a relatively g position to withstand temporary setbacks in t markets.

---

[60] Production of pulp rose from 50,000 to 58,000 tons, imports from 37,000 to 59,000 tons. In 1956, a new mill with a capacity of 42,000 was opened, and imports will shortly be reduced.

[61] Imports rose by another 65 per cent between 1955 and 1956, but when the new plant for making anhydrous ammonia (the construction of which was approved early in 1956) enters into production, it is hoped that there will be an annual saving of 25,000 tons in imports.

[62] Which rose from a steady annual level of 5,000 tons over 1946-49 to 521,000 in 1955.

[63] The opening of six new plants for making sulphuric acid in 1956 added a further 40 per cent to productive capacity.

[64] And began to export in 1956.

[65] However a new seamless tube factory was in position to satisfy domestic requirements by the end of 1955 and to export products, worth about 1 million dollars, to the United States in 1956.

[66] Other import substitutions are now being made. A new plant for tinplate production came into operation recently, and the output of steel ingots rose from 710,000 tons in 1955 to about one million tons in 1956.

[67] Mention should be made, however, of the subsequent entry into operation of a large plant for making textile machinery. Much is expected of this enterprise, which is a private venture promoted jointly by Mexican and Japanese industrialists, not only for import substitution, but also for promoting technical progress in the textile industry, where much of the plant is obsolete

6. Peru

is as yet rather early to discuss the effects of induszation in Peru, since the acceleration in manufacturing nly occurred in recent years, and the degree of trialization is still low.

the post-war years a noticeable break in trends s at about 1950. Thereafter mining and manufacg output grew much more rapidly. Agricultural ıt, however, continued to grow at a steady pace. vian statistics do not as yet permit details to be given arly production indices, but the three-year averages n in table 103, derived from provisional figures, e to show the general course of the trend.

able 103. Peru: Production indices, 1945-55

(1950 = 100)

	1945-47	*1949-51*	*1953-55*
ulture	87	100	121
g	83	102	145
facturing	82	104	145

rce: ECLA, on the basis of national statistics.

e clue to these sudden changes in trends is apparently found in the transformation of Peru's trade and tary policy, which took effect in 1949 and 1950. In period, Peru changed from a country with one of the est sets of import and exchange controls (especially *vis* goods originating in the United States) to a try which possesses, despite the occasional and orary reimposition of restrictions on certain items, f the most liberal foreign economic policies. At the of the change in policy, the sol was freed, and fell to oximately half of its previous level.

e output of the mines appeared to be fairly elastic. the rise in prices (in national currency) due to uation, the production of minerals, especially lead inc, rose considerably. Devaluation was not, however, the only influence. Mining legislation was reformed to give special encouragement, by fiscal and other means, to the industry. Moreover, the market for minerals suddenly improved, owing to the Korean hostilities, at the very time these other measures were taking effect.

Manufacturing output was also stimulated by devaluation. The prices of imported manufactures rose sharply, and the growth of Peruvian incomes was accelerated under the stimulus of the boom in minerals. In fact the rise which took place in manufacturing output appears in the circumstances rather moderate. The explanation for this lay partly in the lack of facilities for taking advantage of these circumstances, and partly in the fact that, although the new exchange régime helped local industry in as far as price competition from foreign products was reduced, it also meant that there was now no restriction on the purchases of such products.

Because 1950 was a period of drastic changes in foreign trade, particularly in imports, the years 1948-1949 have been used instead of 1948-50 as base years for this study.

Peru's capacity to import increased remarkably over the period. Besides the large increase in the quantum of exports, the terms of trade improved slightly, the net income from services rose and, doubtless encouraged by the freedom of exchange transactions, net capital movements turned from negative to positive.[68] Developments may be summarized as is shown in table 104.

(a) *Changes in the structure of imports*

Over this period, imports rose by 71 per cent, or over 50 per cent in *per capita* terms. Since income was rising, under the stimulus of increased export receipts and higher investment, conditions were created for a considerable expansion of consumption. The improvement in income was, moreover, to some extent concentrated in the urban middle classes, which tend to spend their money on goods from abroad. Imports of consumer goods rose sharply in 1950, partly reflecting the unsatisfied demand of earlier years, and continued to grow subsequently. In fact the rise in imports of consumer goods (80 per cent) was relatively larger than that of capital goods (60 per cent), even though investment was rising more rapidly than domestic

---

[68] In 1948-49 the capital inflow had been negligible in comparison with the 11 million dollars of profits remitted overseas. In 1954-55, the average annual inflow was 38 million dollars, which easily covered the remittances of profits, even though these had greatly increased in the meantime.

Table 104. Peru: Evolution of foreign trade

(Annual averages in millions of dollars at 1950 prices)

	Volume of exports	*Terms-of-trade effect* [a]	*Net inflow of long-term capital* [b]	*Net income from services* [c]	*Capacity to import (c.i.f.)*	*Actual volume of imports (c.i.f.)*
1948-49	158	—35	—11	43	155	158
1954-55	262	—21	15	55	311	270
Change	104	14	26	12	156	112

[a] 1950 is used as a base for this comparison.
[b] Net of remittances of profits.
[c] Excluding freight charges, since imports are c.i.f.

Table 105. Peru: Structure of imports 1948-49 and 1954-55

(Percentage analysis of total imports)

	Finished goods			*Materials*		*Total*	
	1948-1949	*1954-1955*		*1948-1949*	*1954-1955*	*1948-1949*	*1954-19*
Consumer goods							
Food, clothing, etc.	19	20	Food, textiles, etc.	29	28		
Durables	3	6					
Fuel	2	2					
	24	28		29	28	53	56
Capital goods							
Agricultural	6	4	Metals	4	4		
Industrial	24	22	Building materials	5	7		
Transport	9	8					
	38	33		9	11	47	44
TOTAL	63	62		37	38	100	100

output. It should be borne in mind, however, that this percentage rise in imports of investment goods was in any case much greater than that recorded in any other Latin American country, except Colombia, and that it started from a high level, such goods forming 47 per cent of imports 1948-49.

Increased demand had less effect in local industry, but there were nevertheless substantial increases in imports of materials for some consumer industries. These included some textile industries, but, in striking contrast to other countries, there was no reduction in imports of clothing as a whole. The rise in imports of finished consumer goods, especially in durables and fuel, was in fact faster than the rise in materials for making consumer goods. Within capital goods, however, much of the increase that occurred was due to higher imports of building materials, rather than of equipment. The authorities administering controls in 1948-49 had succeeded in giving emphasis to the imports of equipment, which provided as high a proportion (38 per cent) of total imports as Mexico. It is not surprising that, with such a big rise in other imports, this proportion should have fallen. Moreover it seems that what happened was that the investment boom, at first concentrated in mining and manufacturing, spread to public works and the construction of housing and business premises. The net result was that material imports rose slightly faster than finished goods, by 73 per cent as against 68 per cent.

(b) *Analysis by commodity categories*

(i) *Finished goods.* Percentage changes in imports of finished goods were as follows:

Food: 19; clothing: 143; other non-durable consumer goods: 155; durables: 200; fuel: 122; equipment: 48; all finished goods: 68.

It was only in the foodstuffs sector that there was considerable import substitution. This moreover was confined to four major commodities: rice, tea, edible oils (other than olive oil) and beef. Rice imports had already become marginal by 1948-49, and their disappearance was no more than the completion of a process begun some years earlier. Tea production grew from 265 to 700 tons and imports fell by nearly as much, from 539 to 75, during the period of the study. The most important decline however, was a saving of nearly 5 million dollars in imports of frozen meat, due partly to greater local livestoc production, and partly to more domestic slaughtering o imported animals on the hoof. Such declines howeve were outweighed by increases in most other food imports notably tinned milk, butter, cacao, and tinned and fres fruit. These increases ranged from threefold to tenfold raising *per capita* consumption of such high quality food considerably (although from very low levels).

There were increases in domestic production of som types of clothing, but these did not make much impressio on imports. Output of cotton fabrics increased by 3 per cent, but imports rose to a level nearly four times tha of 1948-49; and an even faster increase was recorded i imports of stockings, although domestic output als nearly trebled. Among other current consumer goods imports of chemicals showed an increase of 150 per cent mainly because the imports of pharmaceuticals were multiplied nearly four times. As an index of the improvement in living conditions, at least for certain sections o the population, the very large increases in imports o crockery and other household utensils, costume jewellery and toys, are interesting. Domestic output made little headway in these fields, because of the open, even if high-priced, competition from abroad. In fact, the output o the local toy industry actually fell, because it was unable to withstand foreign competition.

Durables were the group which showed the strongest expansion in the new and free exchange régime, rising to a level three times that of six years earlier. Much of the rise took place almost at once, imports in 1950 being already double those of 1948-49.[69] This increment amounted to about 10,400,000 dollars' worth of goods. Household appliances increased particularly steeply (from 400,000 to 2,300,000 dollars), but the rise in imports of cars was more moderate (from 2,400,000 to 4,300,000 dollars). Although smaller absolute amounts are involved, it is interesting to note that twenty times as many cameras and fountain pens were imported in 1954-55 as in 1948-49.

---

[69] This means that the proportionate rise would look much smaller if 1950 were included in the base period.

e fast rise in imports of fuel was concentrated in a r narrow range of special products, mainly aviation , lubricants and residual fuel, since other require- s had been taken care of by the local refineries.

ereases in equipment seem fairly moderate by com- on, but accounted in fact for nearly as many dollars e remaining items put together, because of the high of these imports in 1948-49. During the previous d of stricter control of trade, imports of equipment formed no less than 60 per cent of the imports of ed goods and still amounted to over 50 per cent in 55.

Materials. Percentage changes in material imports as follows:

d: 54; textiles: 9; other consumer materials: 90; metals: 84; ng materials: 127; all materials: 73.

e rise in imports of foods in this category represents st exclusively wheat, imports of which rose from illion dollars in 1948-49 to 22 million dollars in 55. For some time wheat has been the most impor- single commodity imported, and in 1954-55 it still nted for over 8 per cent of the total. During this d, domestic output rose quite considerably (from 00 to 157,000 tons). But the increase in consump- indicative of the improved standard of living, was , and imports rose from 174,000 to 270,000 tons. nly other increase of significance here was cattle on oof, imports of which also rose by about a half, ugh this in part reflects the decline in imports of n meat discussed above.

ports of textile materials did not change greatly, ly because of the rather slow expansion of domestic it. One new item was the importation of artificial es, reflecting the growth of stocking production dis- d above. Imports of cotton yarns continued to nt for over 1 million dollars, despite the fact that is a large-scale cotton exporter. This is due to the quality of Peruvian cotton; the local industry im- some inferior grades.

e increase of other materials for consumer goods tries may seem rather high, in view of the limited ess in industrialization. However, this category in- s imports for agriculture (such as fertilizers), and for mining (explosives), which showed large in- es.[70] Imports of newsprint rose by 75 per cent. papers and boards show a development similar to of wheat and cotton fabrics; local production rose 0 per cent) but lagged behind consumption, and ts rose faster (by 50 per cent). The same was true es and inner tubes, domestic output nearly doubling, imports rose from 71 to 317 tons.

e rise in imports of ferrous metals amounted to 68 ent, whereas the tonnage imported rose by 83 per The difference between these figures implies that omposition shifted towards imports which are cheaper (at 1950 prices), i.e., towards less-manufactured products. This was due partly to a big increase in iron imported for building purposes, and partly to the development of the local metal-transforming industries, whose output rose threefold in this period although from very low levels. The imports of pipes and tubing of a diameter less than 2″, for example, were reduced sharply, though imports of larger pipes rose very rapidly.

The acceleration of investment, discussed earlier, is reflected in the large increase in imports of building materials. Peru continued to produce nearly all its own cement, despite the doubling of its apparent use. The rise in cement imports, though relatively high, accounted for less than half a million dollars. Imports of glass actually declined slightly, which suggests that local output must have risen substantially, though statistics are not available to confirm this. This category was however dominated by large increases in imports of other building materials, e.g. tiles, porcelain appliances and electrical accessories.

(iii) *Capital goods.* Percentage changes in capital goods imports were as follows:

Metals: 84; building materials: 127; agricultural equipment: 26; industrial equipment:[a] 54; transport equipment: 47; all capital goods: 60.

---

[a] Including equipment for mining.

Although less striking than the rise in imports of materials for capital development, there were major increases in most types of imported equipment. Imports of tractors, including spare parts, rose by 60 per cent, although imports of agricultural machinery declined. Machinery specifically for mining rose by 50 per cent, and there were increases ranging from 30 per cent to 100 per cent for most types of industrial equipment, an exception being textile machinery, imports of which fell. An interesting point is that imports of road-building machinery more than quadrupled. There were large increases in imports of commercial vehicles, including spare parts, but lorry chassis imports rose only 20 per cent, and imports of railway equipment fell.

(iv) *Consumer goods.* Percentage increases were as follows:

Food: 37; textiles and clothing: 61; other non-durables: 110; durables: 200; fuel: 122; all consumer goods: 80.

When figures for materials and finished goods are added together, the wide impact of higher consumption becomes evident. Only in the case of food did the rise in domestic output act as an effective brake on the rise in imports. There is no question in the case of Peru of nearly constant levels, or a net decline, in imports of textiles because of import substitution, for this had a relatively small effect on the course of imports. In the case of other non-durables, the effect was even smaller.

(c) *Import flexibility and external vulnerability*

Peru, like Mexico, appears to be in a fairly strong position to meet a temporary recession in foreign trade. It has a wide range of exports, both mineral and agricultural, so that it is not dependent on the strength of the market for a single commodity. On the other hand, it is not in such a sound position as Mexico for two reasons. Its foreign exchange reserves are lower relative to the level of imports, being only sufficient to cover foreign purchases for less than two months. Secondly, imports still account for a high proportion of the domestic product, because of the relatively late, and rather patchy, development of local industry. Over the past few years, Peru has become more, not less, dependent on its exports as a source of income and the scope for compensatory action to offset a decline in the value of exports is still limited. Moreover, the volume of Peruvian exports has, in recent years, ceased to climb at such a fast rate, and, with a continual rise in the demand for imports, Peru's foreign balance has remained precarious. At present it has a margin of non-essential imports which can, if necessary, be cut to release foreign exchange, but this margin has not been much widened by import substitution.

---

[70] f course, materials for export industries are really neither table to consumption nor to capital development, but it ot practicable to construct a separate category of imports are later, in a sense, re-exported by being incorporated in s.

VI. CONCLUSIONS

The six countries studied show very different changes in their import structures. In Argentina, the fall in the capacity to import has caused the authorities to make large cuts in the imports of most consumer goods, but the rising needs for fuel and metals have meant that reductions have even had to be made in imports of other materials and of machinery replacements, and have made it very difficult for the Government to achieve any appreciable expansion in domestic output to offset the decline in external income. Chile shows similar changes, but they are less marked and involve much less severe consequences. Chile's external income rose somewhat and Government policy did not (as it did in Argentina) lead to an actual fall in farm output. Still the agricultural sector has been stagnant in Chile, and the Government has never found it easy to accommodate the growing requirements of food, fuel and materials in the import programme. The other countries show changes in their import structures which are a good deal less marked. Brazil's import margin is not great. It was forced to check imports of capital goods, so as to allow imports of materials and fuel to rise. But this check on imports of capital goods was compensatory in the sense that it balanced the previous heavy spending on precisely these goods. The boom in these imports had made such a check necessary, but also meant that it was not very harmful. The low rise in Venezuela's imports and the changes in its import structure are both misleading. If a full allowance could be made for changes in the imports of the petroleum companies, the increase would be much larger, and little, if any, change in the composition of imports would be shown. Venezuela would then in fact be in much the same class as Mexico and Peru, where imports rose considerably, and only slight structural changes occurred in their economies. For all three countries, economic vulnerability has not increased in the sense used here. The margin for reducing imports has been preserved, and thus these countries would all find it possible to take at least limited action to offset the effects of a slump in exports. However, the very fact that these three countries have all increased the volume of their exports and food production, at the same time as manufacturing has expanded, has meant that their national product continues to depend much as before on export prospects. The ratio of expor to national product has not declined appreciably, nor h the ratio of manufacturing to national output increas to any extent in any of these countries, even though Mexico the absolute rise in manufacturing output h been substantial. Moreover, in Peru and Venezuela least, there is still only a small manufacturing sector whi could be stimulated to offset the fall in export income

Industrialization is an essential part of any programm to make the economy less dependent on foreign trad The question is whether this can be achieved in such way that the import structure remains flexible, so th the Government concerned has some room to manoeuv in offsetting the effects of a recession in export market The theoretical and empirical parts of this study lead certain conclusions about the sort of balance that wou make an economy less susceptible to such tempora recessions.

Since no country can produce all its materials, food a fuel locally, a policy of industrialization must lead greater imports in the long run, particularly if it is succes ful in raising living standards. This is mitigated of cour by the process of substitution for imports. There may periods when the effect of import substitution in som lines outweighs the effect of the upward trends in dema for other products, but this study suggests that su periods will be rare and transient in an expanding eco omy, because import substitution changes, rather tha reduces, the demand for imports. Only in the case of te tiles was there an actual decline in imports over the peri studied, and this was small, even though great effor were made to replace imports in all stages of productio Imports of food rose sharply, despite continual efforts nearly all countries to increase food output. Moreove as industrialization proceeds, the opportunities for furth substitution must diminish.

One of the limits to the pace of industrialization is ther fore the extent to which the capacity to import can expanded. There are three main elements affecting t capacity to import: the volume of exports, the terms trade and the inflow of capital. While the inflow of cap tal usually plays an important, in fact a vital, role in t development process, it obviously cannot be relied indefinitely as a means of financing the rising import quirements of a developing country. There is an increa ing tendency for imports of capital to be earmarked f particular projects, so that most or all of the forei exchange provided is at once used to pay for the capit goods which have to be imported, and little or none available for other purposes.[71] Moreover, as many cou tries in the region well know, an inflow of capital so leads to an outflow of interest and profits which serious impairs the capacity to import.

Nor can it be expected that the terms of trade w continue indefinitely to improve. The foregoing pag have brought out the importance of this improvement the main factor making it possible for imports to ased over the past few years, and therefore enabling r countries to avoid the economic fate of Argentina. the improvement was based on a very few commodi- —cacao, coffee, copper and cotton—and must be dered partly fortuitous. The prices of all these com- ties have already dropped back from the levels of -55, and this improvement in the terms of trade has ow been largely, or wholly, lost. An economic strate- annot be founded on the expectation that the terms ade will show a persistent long-term trend in favour of n America.

---

[71] In the case, which is becoming more common, of corporatio being formed with joint foreign and domestic capital, the finan from overseas may not even cover the cost of imported equipme

is leaves an increase in the volume of exports as the reliable source for financing the expanding volume of rts. If this can be achieved, the problems of a period dustrialization will be very much easier to solve.

e countries of Western Europe, particularly the ed Kingdom, were able, in the nineteenth century, to nd their exports of manufactures to cover their ing needs for materials and food. But there is little pect of Latin America's finding a solution along these ; the industries of the developed countries have too t advantages in techniques and in market connexions other continents.

is true that several countries could expand their rts of manufactures within the region. Reduction of f, currency and transport barriers would stimulate strialization by providing wider markets and also sustain it by earning the foreign exchange to pay mports of materials. There is, however, no net gain reign exchange for the region as a whole, unless the ased exports displace goods from outside the region. is case alone it becomes "import substitution" from oint of view of Latin America. A free trade area may lerate such regional import substitution, though the t on the region's balance of payments is bound to be ed for some time.

is leads to the rather paradoxical conclusion that the sure way of financing the imports for growing second- industries is to expand the volume of exports of ary commodities. An increase in the output of rtable crops and minerals is in fact an essential part e industrialization programme of countries in the n.

ill, there are limits to the possibilities here, set by the rt requirements of the developed countries. On the e the trend in the volume of exports in recent years een disappointing. The explanation may lie in the er low income-elasticity of demand for foodstuffs and ing compared to engineering products. In fact, to xtent that price-elasticities are also low, the result of rt expansion could be lost if the terms of trade turned nst the regions.[72]

e other line of approach to this problem is to examine ossibilities of economizing on imports, so as to check rowth of the demand for foreign exchange, especially rowth of demand for economic necessities, and thus widen the room for manoeuvring. This study has brought out once more, from a slightly different point of view, the already well-known importance of developing local sources of energy as quickly as possible: otherwise fuel imports will continue to account for an increasing fraction of imports. But what it does bring out most strikingly as well is the importance of increasing food production for local consumption.[73]

This increase in local output of primary commodities to meet the demands of a country in process of industrialization need not take place in the country concerned. Just as exports of manufactures to other Latin American countries which displace goods from outside the area mean net import substitution for the region as a whole, so higher imports of food or materials or fuel from other Latin American countries enable industrialization to take place in the region without an added cost in foreign exchange for the region as a whole.

To put the same point another way, although North America and Western Europe appear to offer limited markets for the primary commodities of a Latin American country faced with a rising import bill, many have good prospects of selling more to a Latin American neighbour which itself has rising demands for food, fuel and materials, while at the same time there may also be prospects of buying more from a neighbour (not necessarily the same one). The prospects of the region achieving a rapid rate of industrialization would look better if there were fewer obstacles to intraregional trade in either manufactures or primary commodities.

This study emphasizes the need for a programme to take account not merely of the general long-term aims of structural changes in the economy, but also of the need to strengthen the economy's resistance to short-term fluctuations, by widening the margin between essential imports and the total capacity to import. If this margin is allowed to contract, so that the Government loses its ability to offset recessions overseas, the consequence is likely to be that development has to be checked at times, perhaps for long periods, jeopardizing the achievement of the long-term objectives

Firstly, this margin of flexibility in imports is likely to be increased by the establishment of industries which will process goods that end up as necessities rather than luxuries. The additional materials required will become necessities in either case, because local employment will depend on them. To take over the manufacture of luxuries is in effect to increase the level of necessary imports, and thus reduce the margin of flexibility. On these grounds, which are of course not the only ones to be considered, it is better to establish flour mills or sugar refineries than assembly plants for cars or refrigerators.

Secondly, the margin is also likely to be increased by the establishment of basic industries, which supply the needs of other industries and yet do not have heavy import requirements themselves. Thus to establish factories

---

This does not necessarily apply to tourist income, which may higher elasticities as regards both income and prices than handise exports, and thus help satisfy the increasing foreign nge needs of some countries, particularly those nearest to the ed States.

[73] The failure of food production to expand sufficiently has turned out to be one of the main difficulties faced by those planning industrialization in Eastern Europe.

for textile yarn or the production of basic chemicals and metals is to reduce the import requirements of the economy. The benefit is particularly great if it closes gaps in the production chain, enabling local raw materials to be processed through all the stages up to the finished article.[74]

If a temporary increase in export earnings, due, for example, to a sharp rise in the price of a major export crop, is used to expand such industries or at least to build up foreign exchange reserves, the economy will be in a stronger position to face the decline in export earnings when the boom ends, for the Government will then find it easier to expand local production and offset the effects of the recession in the external sector. To let a period of prosperity be used for the expansion of industries which will raise the basic import requirements of the countr narrows the Government's margin for the painless reduction of imports.

This study brings out, above all, the importance of properly balanced development programme. It can b assumed that one objective of the programme is to mak the economy less vulnerable to the hazards of world trad For this reason, if for no other, industrial output has t rise more rapidly than total output, i.e., the proportion o total income produced in secondary industry has to b raised. But a balanced development programme shoul also contain plans for increases in the total volume o primary production sufficient to permit both exports an food consumption to rise, so that imports of materials fo industry can be expanded without the economy's becoming more vulnerable to external fluctuations.

(See Statistical Annex on following pages.)

---

[74] E.g. the manufacture of sulphuric acid in Mexico, discussed above.

STATISTICAL ANNEX

Table I. Latin America: Change between 1948-50 and 1954-55 in the quantum of imports in relation to the change in the capacity to import and its principal components

(Annual averages in millions of dollars at 1950 prices)

Country	Quantum of exports	Terms-of-trade effect [a]	Net inflow of long-term capital [b]	Other net income (services) [c]	Total capacity to import (c.i.f.)	Quantum of imports (c.i.f.) [d]
A. *Countries in process of industrialization*						
(i) With imports stationary or falling						
Argentina	−46	−254	128	67	−105	−267
Cuba	−19	−47	49	62	45	3
TOTAL [e]	−65	−301	177	129	−60	−264
(ii) With imports increasing moderately:						
Chile	5	99	−17	−9	78	59
Venezuela	575	−14	−326	−29	205	206
Brazil	−232	649	181	8	605	363
Mexico	213	−51	29	124	314	213
TOTAL	561	683	−133	94	1,202	841
(iii) With imports increasing rapidly:						
Uruguay	−2	58	...	−5	51	90
Peru	95	1	26	12	134	106
Colombia	72	208	11	9	283	287
El Salvador	3	59	−6	3	59	42
Ecuador	22	48	...	7	76	68
TOTAL	190	374	31	8	603	593
B. *Other countries*						
Bolivia	−34	28	12	8	14	2
Panama	5	5	−20	10	—	12
Haiti	−4	17	...	...	15	9
Paraguay	−19	18 [f]	—	2	1	8
Guatemala	−4	48	5	—	49	24
Honduras	−11	13	...	2	4	16
Dominican Republic	27	8	7	16	59	40
Costa Rica	5	30	4	3	42	35
Nicaragua	25	28	—	6	59	45
TOTAL	−10	159	8	47	243	173
Total for Latin America [e]	673	949	83	278	1,984	1,360
Total, excluding Venezuela [e]	99	963	409	307	1,778	1,154

Source: ECLA, on the basis of national statistics and data supplied by the International Monetary Fund.

[a] This is measured in terms of 1948-50 prices, not the prices of 1950 alone (which will also affect slightly the figures for the capacity to import).

[b] Remittances of profits have been deducted.

[c] Excluding costs of transport and insurance of imports, which are included in their c.i.f. value.

[d] Where data were reported f.o.b., adjustments were made in order to show all figures on a c.i.f. basis.

[e] Group totals may be affected by errors in the conversion rate used for Argentina (see Explanatory Note).

[f] Estimated.

Table II. Latin America: Total and *per capital* imports by countries 1948-50 and 1954-55[a]

(Annual averages at 1950 prices)

Country	*Total imports*			*Per capita imports*		
	Millions of dollars		*Change (percentage)*	*Dollars*		*Change (percentage)*
	1948-50	*1954-55*		*1948-50*	*1954-55*	
A. *Countries in process of industrialization*						
(i) With imports stationary or falling						
Argentina	1,229	962	−22	73	51	−31
Cuba	501	504	1	95	83	−12
TOTAL[b]	1,730	1,466	−15	79	59	−25
(ii) With imports increasing moderately						
Chile	254	313	23	43	47	12
Venezuela	755	960	27	156	169	8
Brazil	1,038	1,401	35	20	24	19
Mexico	532	745	40	21	26	20
TOTAL	2,579	3,419	33	30	34	13
(iii) With imports increasing rapidly						
Uruguay	172	262	53	73	102	39
Peru	164	270	65	20	29	48
Colombia	326	613	88	29	49	66
El Salvador	41	82	102	22	38	72
Ecuador	46	114	147	15	31	109
TOTAL	749	1,341	79	28	44	57
B. *Other countries*						
Bolivia	82	84	3	27	26	− 3
Panama	70	82	18	89	91	2
Haiti	31	40	27	10	12	18
Paraguay	29	37	29	21	24	14
Guatemala	66	90	36	24	28	15
Honduras	39	55	41	28	34	20
Dominican Republic	55	95	73	26	40	52
Costa Rica	42	76	83	54	82	52
Nicaragua	25	70	179	25	57	134
TOTAL	439	629	43	27	34	26
TOTAL FOR LATIN AMERICA[b]	5,494	6,854	25	36	40	9

Source: ECLA, on the basis of official statistics.

[a] Where data were reported f.o.b., adjustments were made in order to show all figures on a c.i.f. basis.

[b] Group totals may be affected by errors in the conversion rate used for Argentina (see Explanatory Note).

(Annual averages in millions of U.S. dollars at 1950 prices)

Country	Food [b]		Clothing [c]		Other non-durable consumer goods		Durable consumer goods		Fuel [d]		Equipment [e]		All finished goods	
	1948-1950	1954-1955	1948-1950	1954-1955	1948-1950	1954-1955	1948-1950	1954-1955	1948-1950	1954-1955	1948-1950	1954-1955	1948-1950	1954-1955
A. *Countries in process of industrialization*														
(i) With imports stationary or falling														
Argentina	27	23	26	1	81	37	81	33	69	67	314	169	597	331
Cuba	121	124	39	20	53	62	48	54	32	35	74	66	367	360
TOTAL[f]	148	147	65	21	134	99	129	87	101	102	388	235	964	691
(ii) With imports increasing moderately														
Chile	10	20	10	3	6	7	8	6	28	49	72	75	134	160
Venezuela	85	83	31	28	71	81	48	71	9	16	339	424	584	703
Brazil	59	78	19	1	34	64	86	38	130	223	360	390	688	793
Mexico	14	34	9	5	34	41	42	47	23	59	203	282	324	468
TOTAL	168	216	69	37	145	193	183	162	190	346	974	1,171	1,729	2,125
(iii) With imports increasing rapidly														
Uruguay	19	12	14	7	2	11	12	10	5	5	44	62	95	107
Peru	16[g]	19	5[g]	12	9[g]	24	7	16	3	6	61	90	101	167
Colombia	7	23	12	13	22	9	22	63	11	30	125	217	199	355
El Salvador	3	10	7	11	7	13	7	11	2	5	7	14	33	65
Ecuador	..	..	..	..	..	..	5	12	1	4	14	30	33[h]	80[h]
TOTAL[i]	45	64	38	43	39	56	53	112	22	50	251	413	461	773
B. *Other countries*														
Bolivia	11	18	6	4	6	3	5	8	5	5	17	16	49	54
Panama	11	11	10	11	14	16	10	10	5	8	9	13	59	70
Haiti	3	6	7	11	4	2	2	2	1	2	5	8	23	30
Paraguay	..	..	..	..	..	..	2	3	2	2	6	7	17[h]	23[h]
Guatemala	4	8	10	14	6	10	7	9	5	7	15	17	48	65
Honduras	3	4	6	8	4	6	3	3	3	4	9	12	28	37
Dominican Republic	5	7	7	11	5	8	5	7	4	10	11	23	36	65
Costa Rica	3	6	6	8	5	10	2	5	3	6	7	15	26	49
Nicaragua	1	2	4	8	4	11	2	4	3	4	4	15	18	44
TOTAL[g]	41	62	56	74	47	67	37	52	32	47	82	125	303	437
TOTAL LATIN AMERICA[f i j]	402	488	228	175	365	415	402	413	346	545	1,694	1,945	3,457	4,026

Source: ECLA, on the basis of national statistics.

[a] "Finished goods" are those that do not require appreciable further processing.

[b] Including beverages.

[c] Including piece goods and footwear.

[d] Excluding crude petroleum.

[e] Groups 7, 8 and 9 of the classification by use (see Explanatory Note).

[f] Group totals may be affected by error in the conversion rate used for Argentina, (see statistical Appendix).

[g] 1948-49.

[h] Including total imports of food, clothing and other non-durable consumer goods.

[i] Figures for the first six columns exclude Ecuador.

[j] Figures for the first six columns exclude Paraguay.

Table IV. Latin America: Imports of materials[a] 1948-50 and 1954-55

(Annual averages in millions of U.S. dollars at 1950 prices)

Countries	Food[b]		Textiles[c]		Other materials for consumer goods		Crude petroleum		Metals		Building materials		All materials	
	1948-1950	*1954-1955*	*1948-1950*	*1954-1955*	*1948-1950*	*1954-1955*	*1948-1950*	*1954-1955*	*1948-1950*	*1954-1955*	*1948-1950*	*1954-1955*	*1948-1950*	*1954-1955*
A. *Countries in process of industrialization*														
(i) With imports stationary or falling														
Argentina	31	26	73	51	256	254	41	72	141	180	90	48	632	631
Cuba	16	10	32	27	56	65	5	11	17	20	9	11	134	143
TOTAL[d]	47	35	105	78	311	319	46	83	158	200	99	59	765	774
(ii) With imports increasing moderately														
Chile	34	47	27	31	28	49	—	3	15	11	16	11	120	152
Venezuela	14	24	6	8	59	116	—	—	32	37	59	71	170	255
Brazil	103	174	21	14	133	223	—	49	52	87	40	62	349	608
Mexico	28	10	18	21	105	183	—	—	28	31	30	33	209	277
TOTAL	179	255	72	73	325	570	—	52	128	165	145	177	848	1,292
(iii) With imports increasing rapidly														
Uruguay	15	17	10	17	15	45	9	27	15	30	14	19	77	156
Peru	17[e]	26	8[e]	9	21[e]	40	—	—	5	10	9	19	60	103
Colombia	16	32	33	30	43	107	—	—	13	20	21	61	126	250
El Salvador	2	4	—	—	2	4	—	—	1	2	2	3	6	13
Ecuador	..	..	..	..	..	..	—	—	2	5	2	5	14[f]	34[f]
TOTAL[g]	50	80	51	55	81	196	9	27	36	66	48	107	283	555
B. *Other countries*														
Bolivia	12	12	5	6	8	7	—	—	3	2	5	4	33	30
Panama	3	3	—	—	4	3	—	—	1	1	2	2	10	10
Haiti	3	5	1	1	3	2	—	—	1	1	1	1	8	9
Paraguay	..	..	..	..	..	..	—	—	1	1	2	2	11[f]	13[f]
Guatemala	3	5	3	2	8	12	—	—	2	2	3	4	19	25
Honduras	1	2	1	1	4	9	—	—	2	1	3	4	11	17
Dominican Republic	2	2	4	4	7	13	—	—	1	2	4	8	18	28
Costa Rica	3	5	1	1	7	13	—	—	2	4	2	5	16	27
Nicaragua	1	3	1	2	2	13	—	—	2	3	1	4	7	25
TOTAL[h]	28	35	17	16	43	72	—	—	14	8	23	33	133	185
TOTAL LATIN AMERICA[d g h]	304	405	243	222	760	1,157	55	162	335	448	314	376	2,029	2,805

Source: ECLA, on the basis of national statistics.

[a] "Materials" are goods that require appreciable further processing.

[b] Includes beverages and tobacco.

[c] Raw textiles and yarn.

[d] Group totals may be affected by errors in the conversion rate used for Argentina see Explanatory Note).

[e] 1948-49.

[f] Includes total imports of food, textiles and other materials for consumer goods.

[g] Figures for the first six columns exclude Ecuador.

[h] Figures for the first six columns exclude Paraguay.

Table V. Latin America: Imports of capital goods[a] 1948-50 and 1954-55

(Annual averages in millions of U.S. dollars at 1950 prices)

Country	*Metals*		*Building materials*		*Agricultural equipment*		*Industrial equipment* [b]		*Transport equipment*		*All capital goods*	
	1948-1950	*1954-1955*	*1948-1950*	*1954-1955*	*1948-1950*	*1954-1955*	*1948-1950*	*1954-1955*	*1948-1950*	*1954-1955*	*1948-1950*	*1954-1955*
A. *Countries in process of industrialization*												
(i) With imports stationary or falling												
Argentina	141	180	90	48	35	27	194	94	85	49	545	397
Cuba	17	20	9	11	9	7	48	50	17	8	99	97
TOTAL [c]	158	200	99	59	44	34	242	144	102	57	644	494
(ii) With imports increasing moderately												
Chile	15	11	16	11	6	13	46	42	19	20	103	97
Venezuela	32	37	59	71	23	41	237	285	79	98	431	532
Brazil	52	87	40	62	46	62	206	221	108	107	452	538
Mexico	28	31	30	33	24	31	127	168	53	84	261	346
TOTAL	128	165	145	177	99	147	615	715	259	309	1,246	1,513
(iii) With imports increasing rapidly												
Uruguay	15	30	14	19	7	10	22	33	14	19	72	111
Peru	5	10	9	19	9	11	36	59	17	20	75	119
Colombia	13	20	21	61	13	28	75	124	38	66	159	298
El Salvador	1	1	2	3	1	1	4	8	3	5	10	19
Ecuador	2	5	2	5	2	3	7	17	5	10	19	40
TOTAL	36	66	48	107	30	53	144	241	77	120	335	586
B. *Other countries*												
Bolivia	3	2	5	4	1	2	11	10	5	5	24	22
Panama	1	1	2	2	1	1	5	8	3	4	12	17
Haiti	1	1	1	1	1	1	3	5	1	2	7	9
Paraguay	1	1	2	2	—	1	4	4	2	2	8	9
Guatemala	2	2	3	4	2	3	6	9	7	6	20	24
Honduras	2	1	3	4	1	1	4	4	4	7	14	17
Dominican Republic	1	2	4	8	1	1	7	16	4	6	16	32
Costa Rica	2	4	2	5	1	3	4	9	2	4	11	24
Nicaragua	2	3	1	4	1	3	2	8	—	4	6	22
TOTAL	14	18	23	33	9	15	45	72	28	39	118	176
TOTAL LATIN AMERICA [c]	335	448	314	376	182	248	1,046	1.172	466	524	2,343	2,769

Source: ECLA, on the basis of national statistics.

[a] Including not only finished goods, but also materials destined to be used mainly in the manufacture of capital goods.

[b] Including equipment for mining and also equipment which is not obviously identifiable as agricultural or transport equipment.

[c] Group totals may be affected by error in the conversion rate used for Argentina (see Explanatory Note).

Table VI. Latin America: Imports of consumer goods,[a] 1948-50 and 1954-55

(Annual averages in millions of U.S. dollars at 1950 prices)

Countries	Food		Textiles and clothing		Other non-durables		Durables		Fuel		All consumer goods	
	1948-1950	*1954-1955*	*1948-1950*	*1954-1955*	*1948-1950*	*1954-1955*	*1948-1950*	*1954-1955*	*1948-1950*	*1954-1955*	*1948-1950*	*1954-1955*
A. *Countries in process of industrialization*												
(i) With imports stationary or falling												
Argentina	57	49	99	52	337	291	81	33	110	139	684	564
Cuba	137	133	71	47	108	127	48	54	37	46	401	407
TOTAL[b]	194	182	170	99	445	418	129	87	147	185	1,085	971
(ii) With imports increasing moderately												
Chile	44	68	37	34	34	56	8	6	28	52	151	216
Venezuela	99	107	37	36	131	197	48	71	9	16	323	426
Brazil	162	252	40	15	168	287	86	38	130	272	585	863
Mexico	42	44	27	25	138	224	42	47	23	59	272	399
TOTAL	347	471	141	110	470	763	183	162	190	398	1,331	1,904
(iii) With imports increasing rapidly												
Uruguay	34	29	24	24	17	57	12	10	14	32	100	151
Peru	33[c]	45	13[c]	20	30[c]	64	7	16	3	6	86	151
Colombia	23	55	45	43	65	116	22	63	11	30	166	307
El Salvador	6	15	7	11	8	17	7	11	2	5	30	59
Ecuador	..	..	..	..	..	..	5	12	1	4	27[d]	74[d]
TOTAL[e]	95	144	88	99	120	252	53	112	31	77	409	742
B. *Other countries*												
Bolivia	23	30	11	10	13	10	5	8	5	5	58	62
Panama	14	14	10	11	17	19	10	10	5	8	56	62
Haiti	6	10	8	11	6	5	2	2	1	2	24	30
Paraguay	..	..	..	..	..	..	2	3	2	2	20[d]	27[d]
Guatemala	7	13	13	15	14	22	7	9	5	7	47	66
Honduras	4	6	7	9	8	15	3	3	3	4	25	37
Dominican Republic	6	9	11	15	12	21	5	7	4	10	38	61
Costa Rica	6	10	7	9	13	23	2	5	3	6	31	53
Nicaragua	2	5	5	9	7	24	2	4	3	4	19	47
TOTAL[f]	69	97	72	90	90	138	37	52	32	47	318	446
TOTAL LATIN AMERICA[b e f]	706	894	471	397	1,125	1,572	402	413	401	706	3,143	4,062

Source: ECLA, on the basis of national statistics.

[a] Including not only finished goods, but also materials destined to be used mainly in the manufacture of consumer goods.

[b] Group totals may be affected by errors in the conversion rate used for Argentina (see Explanatory Note).

[c] 1948-49.

[d] Including total imports of food, textiles, clothing and other non-durables.

[e] Figures for the 1st. six cols. exclude Ecuador.

[f] Figures for the 1st. six cols. exclude Paraguay.

Table VII. Latin America: Production and imports of sugar in selected importing countries

(Annual average values in millions of U.S. dollars at 1950 prices; volumes in thousands of tons)

	1948-50			Change between 1948-50 and 1954-55		
	Volume of production	Imports		Volume of production	Imports	
		Volume	Value [a]		Volume	Value [a]
Chile	—	171	19	6	101	11
Venezuela	39	49	7	80	−35	−5
Uruguay	3	84	9	23	−18	−2
TOTAL OF 3 COUNTRIES	42	304	35	109	48	4

Source: ECLA, on the basis of national trade and production statistics.

[a] In terms of 1950 prices c.i.f.

Table VIII. Latin America: Production and imports of wheat in selected importing countries

(Annual averages in thousands of tons)

Country	1948-50			Change between 1948-50 and 1954-55			1948-50		Change between 1948-50 and 1954-55	
	Production	Imports		Production	Imports		Total imports		Total imports	
		Wheat	Flour		Wheat	Flour	Volume ($ m)	Value [a]	Volume	Value [a] ($ m)
e	952	26	5	65	179	1	31	2	180	11
ezuela	7	1	141	−4	4	89	142	11	93	7
il	458	781	258	538	767	−49	1,139	96	718	63
ico	545	318	—	326	−281	—	318	23	−281	−20
	137	174	10	20	96	2	184	15	98	8
mbia	116	29	—	40	24	—	29	3	24	3
via	30	30	24	−12	10	1	54	5	11	1
AL FOR 7 COUNTRIES	2,245	1,359	438	973	799	44	1,797	155	843	72

Source: ECLA, on the basis of national trade and production statistics.

Note: Flour is expressed in terms of the equivalent weight of wheat, the rate of extraction being assumed to be 70 per cent.

[a] In terms of 1950 prices c.i.f.

Table IX. Latin America: Imports of crude petroleum for refining

(Annual averages in millions of dollars c.i.f. at 1950 prices)

Country	1948-50	1954-55
Argentina	41	72
Cuba	5	11
Chile	—	3 [a]
Brazil	—	49
Uruguay	9	27
TOTAL FOR 5 COUNTRIES	55	162

Source: ECLA, on the basis of national trade statistics.

[a] Estimated.

Table X. Latin America: Production, imports and apparent consumption of paper and board in selected countries

(Annual averages)

Country and commodity	*1948-50 (Thousands of tons)*		*Change between 1948-50 and 1954-55 (Thousands of tons)*		*Apparent consumption*			
					Total (Thousands of tons)		*Per capita (kgs)*	
	Production	*Imports*	*Production*	*Imports*	*1948-50*	*1954-55*	*1948-50*	*1954-55*
Newsprint								
Argentina	1	113	21	— 47	114	88	7	5
Chile	8	16	4	— 4	24	24	4	4
Venezuela	—	9	—	10	9	19	2	3
Brazil	29	54	—	77	83	160	2	3
Mexico	1	51	−1	10	52	61	2	2
Peru	—	8	—	6	8	14	1	2
Colombia	—	15	—	— 2	15	13	1	1
Other papers and boards								
Argentina	188	95	55	— 70	283	268	17	14
Chile	43	1	6	—	44	50	7	8
Venezuela	8	27	2	21	35	58	7	10
Brazil	188	9	106	6	197	310	4	5
Mexico	117	15	110	8	132	250	5	9
Peru	18	4	7	2	22	31	3	3
Colombia	—	30	11	— 3	30	38	3	3
Total								
Argentina	189	209	76	−117	397	357	24	19
Chile	51	17	10	— 4	68	74	11	11
Venezuela	8	36	2	31	44	77	9	14
Brazil	217	63	106	83	280	469	6	8
Mexico	118	66	109	18	184	311	7	11
Peru	18	12	7	8	30	45	4	5
Colombia	—	45	11	— 5	45	52	4	4
Total for seven countries								
Newsprint	40	266	23	49	306	379	3	3
Other papers and boards	562	181	298	— 35	742	1,005	6	7
GRAND TOTAL	602	447	321	14	1,048	1,384	9	10

Sources: For imports, national foreign trade statistics; for production, national statistics supplemented by first-hand information.

Table XI. Latin America: Imports of certain iron and steel products in selected countries

(Annual averages in thousands of tons)

Country	*Ingots*		*Bars, shapes plates and strips*		*Wire and cable*		*Rails*		*Tinplate*		*Total*	
	1948-50	*1954-55*	*1948-50*	*1954-55*	*1948-50*	*1954-55*	*1948-50*	*1954-55*	*1948-50*	*1954-55*	*1948-50*	*1954-55*
entina	188	642	370	403	105	2	49	118	57	86	769	1,251
le	—	—	52	18	17	3	6	5	8	—	84	26
ezuela	—	—	76	135	20	31	. . .	. . .	7	16	103 [a]	182 [a]
zil	—	—	35	18	34	36	. . .	. . .	54	92	123 [a]	146 [a]
guay	13	19	. . .	. . .	. . .	. . .	. . .	. . .	10	9	23 [a]	28 [a]
u	—	—	24	52	3	7	6	4	2	8	35	71
ombia	—	—	45	191	22	38	3	9	5	11	75	249
TOTAL FOR 7 COUNTRIES	201	661	602 [a]	817 [a]	201 [a]	117 [a]	64 [a]	136 [a]	144	221	1,211 [a]	1,952 [a]

Source: ECLA, on the basis of national foreign trade statistics.
Note: — = nil; . . . = not available.

[a] Total incomplete because information on some items is not available.

Table XII. Latin America: Production, imports and apparent consumption of cement

(Annual averages)

Country	*1948-50*		*Change between 1948-50 and 1954-55*		*Apparent consumption of cement*			
					Total (Thousands of tons)		*Per capita (kgs)*	
	Production	*Imports*	*Production*	*Imports*	*1948-50*	*1954-55*	*1948-50*	*1954-55*
	(Thousands of tons)							
A. *Countries in process of industrialization*								
(i) With imports stationary or falling								
Argentina	1,418	329	330	− 83	1,747	1,994	104	105
Cuba	304	92	118	105	396	619	75	103
(ii) With imports increasing moderately								
Chile	560	2	229	− 1	558	790	94	120
Venezuela	332	468	892	−442	800	1,250	166	220
Brazil	1,252	400	1,273	− 61	1,652	2,864	33	50
Mexico	1,215	3	711	− 1	1,218	1,928	48	66
(iii) With imports increasing rapidly								
Uruguay	297	2	−1	102	229	400	127	154
Peru [a]	286	3	230	27	289	546	35	59
Colombia	468	29	582	− 19	485	1,060	44	84
El Salvador	—	34	31	2	34	64	18	30
Ecuador	50	9	70	8	59	137	19	38
B. *Other countries*								
Bolivia	40	—	−4	3	40	39	13	12
Panama	50	7	60	—	57	117	66	130
Haiti	—	19	—	34	19	53	6	16
Paraguay	—	9	7	− 5	9	11	6	7
Guatemala	40	7	34	− 2	47	79	17	24
Honduras	—	14	—	9	14	23	10	14
Dominican Republic	57	21	127	− 18	78	187	37	79
Costa Rica	—	27	—	20	27	56	35	60
Nicaragua	16	2	11	19	18	48	17	39
TOTAL LATIN AMERICA	6,385	1,477	4,700	−294	7,846	12,265	58	71

Source: ECLA, on the basis of national statistics.

[a] Including Portland and white cement.

EXPLANATORY NOTE ON DEFINITIONS AND METHODS

1. Classification of imports

Each country's imports are divided by ECLA into the following ten categories:[1]

(1) Non-durable consumer goods (food and beverages ready for consumption, cigarettes, clothing, pharmaceuticals, etc.)
(2) Durable consumer goods (motor cars and parts, bicycles, furniture, household appliances, etc.)
(3*a*) Fuels ready for use (petrol, coal, kerosene, etc.)
(3*b*) Fuels requiring processing (crude petroleum)
(4) Metallic materials (iron, steel ingots, tinplate copper, etc.)
(5) Other materials (wheat, animal feeds, live animals, raw tobacco, textiles, hides, fertilizers, industrial acids, newsprint, etc.)
(6) Building materials (cement, asphalt, structural steel, glass, paint, fittings, etc.)
(7) Agricultural equipment (tractors, agricultural machinery, etc.)
(8) Industrial and mining equipment (factory and office machinery, engines, tools, etc.)
(9) Transport equipment (lorries, buses, locomotives, rolling stock, communication equipment, etc.)

For the purposes of this study, these categories have been classified according to stage of production. Categories (1), (2), (3*a*), (7), (8) and (9) are treated as "finished goods", the remainder as "materials". The dividing line between finished goods and materials is, of course, somewhat arbitrary. The question of principle is whether much further processing is necessary before the goods in question are bought as end-products, following customary national accounting conventions in the definition of what constitutes an "end-product". However, there are many goods which are sold partly as end-products, and partly as materials to be incorporated in other end-products. Cloth, for example, may be sold direct to the consumer, or may be bought by tailoring or furnishing industries to be sold, after processing, as clothes or part of furniture. Flour may be bought by the housewife, or by the bakeries for making bread and cakes. Petrol may be purchased by owners of private cars or by those operating buses or taxis. Stationery may be used for private or for commercial letters. Radio parts may be sold direct to the consumer or used for assembling sets. Electric wiring, plumbing fixtures, paint, etc., may be bought as such by the consumer, or they may be purchased by the builder for incorporation in a house. As a general rule, the line followed here is that a commodity is treated as a "finished good" if an appreciable fraction is bought in its existing condition, or, if for any other reason, the average percentage added to its value by local processing is small. Thus cloth is treated as a finished product, but yarn as a material; flour as a finished product, but wheat as a material; petrol as a finished product, but crude petroleum as a material; stationery as a finished product, but newsprint as a material; parts for engineering products are all considered finished products and all building materials and fixtures are treated as materials. The anomalies involved in this inevitably rather arbitrary treatment are not likely to affect the general trends outlined above, since any plausible reclassification would hardly affect the index numbers on which the analysis is based. In the great majority of cases, a commodity is clearly identifiable as being universally sold either to final buyers in its existing condition, or to industry for further processing.[2]

The same categories were also rearranged for the purposes this study to obtain a division between goods ultimately destine for current consumption by consumers or the Government, an those ultimately destined to be purchased in the course capital investment. Groups (1), (2), (3*a*), (3*b*) and (5) we treated as "consumer goods" (or material that would eventual be incorporated in consumer goods), and the remainder as "capit goods", once more following the national accounting definitions "consumption" and "capital investment". Here again there a certain awkward categories. The economist's definition of "i vestment" applies the criterion whether the goods concerned a to be used in the production of income, and this would imply th cars bought by taxi-drivers, sewing-machines bought by sea stresses, refrigerators bought by shopkeepers, etc., are all capit goods.

But typewriters, hand tools, etc., bought for purely private us are really best considered as consumer goods; and various buildi materials, purchased retail for the decoration and maintenance existing houses, are usually treated as consumer goods by nation income estimators. The principle followed here has been to classi products according to the predominant use: cars as consume goods, tools as capital goods, etc. It has been assumed that fu is wholly a consumption good, though a small fraction will in fa be used by industries producing capital goods (e.g. structural ste may be manufactured by burning imported coke and using ele tricity made from imported petroleum or coal, and the manufa ture and transport of building materials such as cement, require fuel). These assumptions involve, however, little error.[3] What more serious is the allocation of metal imports entirely to capit goods, and other materials entirely to consumer goods. A glanc at any input-output table shows that in fact many textiles a incorporated in capital goods, and even more so, many metals i consumer goods. However, such mixtures of different categori of materials occur mainly in complex commodities, like motor ca and household appliances (among consumer goods), or aircraf railway coaches and ships (among capital goods). These advance products are scarcely being made at all in Latin America, and th method followed here involves therefore far less error than migh seem to be the case at first sight and far less than it would be i more advanced industrial countries.[4] Moreover group (4), th group most likely to contain cases wrongly classified, is relativel small, accounting for less than 20 per cent of capital goods. Con sequently, the inevitable errors of classification are also not likel to affect the index numbers on which the analysis by end-use based.

Within each of the consumer goods categories (1) and (5) further division was made for this study between food,[5] textiles and other non-durables.[7] The two classes of foods (foods ready f sale from group (1), and foods requiring further processing fro group (5)) were also added together in some tables to form a tota ood imports of all types. Similarly, textiles from each group e added together to provide a total of textile imports of all ges of production, and this was also done with other non-able consumer goods, and with fuel. In effect this means that sub-classifications were available for non-durable consumer ds according to their role in the household economy as well as stage of production. Available statistics did not readily permit division of categories (1) and (5) to be made for Ecuador and aguay, which are omitted from the respective estimates.

---

[1] Actually nine categories are generally used. A special subdivision of category (3) has been made here.

[2] In one respect there are fewer anomalies in this study than there would be in countries where national income estimators use income tax statistics as the primary source, and thus statistical definitions are based on the practice of income tax authorities. In these countries "materials" have to be defined for national income purposes as all goods which the revenue authorities allow business to write off in the year of purchase. This means tha typewriters, office furniture, hand tools, etc., are often classifie as "materials" in the economic statistics of such countries, instea of as finished (capital) goods. This does mean, however, that th treatment here is not fully consistent with internationally ac cepted conventions derived from the practice in Western Europ and North America.

[3] The previous footnote, drawing attention to a further implici though minor, departure from national income conventions applie here too.

[4] It is true that they involve more error in the case of countrie like Argentina, Brazil and Mexico, than in countries with les highly developed industries.

[5] "Food" includes beverages and tobacco.

[6] "Clothing" includes footwear.

[7] Certain food and textile commodities, for which unit value could not be calculated, were included with other non-durables

REVALUATION OF IMPORTS IN TERMS OF DOLLARS AT 1950 PRICES

mports each year were revalued at 1950 prices by applying the ce or unit value of each commodity in 1950 to the quantities ported in the various years, the price used being expressed in lars, where national statistics readily permit this; otherwise it iven in local currency. While this revaluation was not done for commodities, a high proportion (generally more than 75 per cent he total value) was covered for each country. From the items covered, average price, or unit value, indices were calculated ich were assumed to be representative of the price trend for the ole of a country's import trade. On this assumption, the unit ue indices were applied to the current value of items not covered the original calculations, in order to convert all items to 1950 ces. In the case of groups (2), (5), (7), (8) and (9), "unit value" atives were subject to some error because of the lack of homoeity in the groups of imports concerned. For example, a rise the "unit value" of trucks may be due to the importation of ger trucks rather than to a genuine price rise. Consequently ults should be more cautiously interpreted for these groups than others. The procedure was the same for exports. The unit ue indices for imports and exports, so obtained, were also used the calculation of the effects of changes in the terms of trade.[8]

Imports and exports were now available in 1950 prices measured national currency. The final step was to convert them to 1950 llar prices wherever they were not already expressed in that rrency. To make this conversion, the exchange rates used were ose recognized by the respective customs authorities in 1950, cept that, because of the variety of exchange rates in force in Argentina in 1950, an arbitrary rate was used to convert the Argentine peso figures into dollars. The effect of this is that the group index concerned and the regional index may give a less accurate weight to Argentine figures than to those of other countries. The results of this study would not, however, be affected. The indices for the first group are in any case largely a reflection of Argentina's indices, while Argentina does not have a sufficient weight for variations in its economy to affect Latin American aggregates very severely. Errors in weights for other countries will be only of minor importance.

3. ESTIMATES OF DOMESTIC PRODUCT, CONSUMPTION AND INVESTMENT IN TERMS OF DOLLARS AT 1950 PRICES

For the purpose of this study, these estimates were all made in terms of 1950 dollars. It will be appreciated that they are weak for some countries, especially in the case of investment. Indeed in some cases — Uruguay, Bolivia, Costa Rica, Nicaragua and Haiti — estimates of investment were not available, either for both these periods or for one of them, and tentative figures had to be used to complete the two group totals (A(iii) and B). The figures quoted for changes in investment in these groups are therefore only very rough, and are marked as such in the tables concerned. The country estimates which are available for these groups are in any case approximate. Fortunately, however, only a small fraction of each group's investment is made in the countries for which no figures are available, and these gaps are not therefore likely to affect seriously the results for the groups, still less for the whole region.

Furthermore, while appropriate "unit value" indices can be used for deflating the value of imports, estimates of the total real domestic product, real consumption and real investment make use of either physical quantity indices or price deflation indices, and these indices are not always suitable in coverage or weighting. Finally the 1950 conversion rates used to produce totals for groups of countries, and for the region as a whole, are only approximate.[9]

The estimates of the domestic product, of consumption and of investment must therefore only be considered very tentative and approximate, although they appear to convey orders of magnitude adequate for the general purposes of this study. The analysis rests mainly on the much more accurate figures of real imports.

---

[8] These effects were measured in 1948-50 prices, not those of 50 (i.e., the unit value indices had a 1948-50 basis). This inlves a slight error in the figures for changes in the capacity to port, which are intended to be expressed in terms of 1950 prices.

[9] See *Economic Bulletin for Latin America*, vol. I, No. 2, p. 35.

B. PRODUCTIVITY OF LABOUR AND LAND IN LATIN AMERICAN AGRICULTURE

I. INTRODUCTION

Some of the factors influencing the low level of productivity in Latin American agriculture are analysed here; and, in addition, the progress achieved during the past decade in the productivity of land and labour is evaluated for Latin America as a whole and for certain individual countries.[1]

Undoubtedly, one of the most serious problems in Latin America is constituted by the high percentage of the population engaged in farming activities with little capital, backward techniques and low productivity. In the early stages of economic development, there is nothing surprising about such a structure of the active population. Only as modern technology gradually spreads to agriculture, and the use of mechanical equipment and a wider range of methods becomes more common, can *per capita* production substantially increase, so as to satisfy a growing demand for agricultural commodities. The manpower thus released from farming activities will find employment in industry, transport and services, as a corollary of the specialization and diversification of production which economic development entails.

This process has been taking place in Latin America during the last ten years, and, as a result, while the productivity of the agricultural labour force has been increasing, its relative importance has been progressively declining. Nevertheless, the improvement in productivity has not been sufficiently rapid. This is because, in the first place, given the extremely disadvantageous position of the farm worker in Latin America, productivity would have to increase at an accelerated rate—much faster, indeed, than in the case of non-agricultural activities—if the present low standard of living is to be raised within a fairly reasonable space of time. Secondly, in view of the technical progress achieved in other countries in recent years, which implies radical changes in the traditional systems of farming, much greater increments in Latin American productivity might have been expected, had the various new techniques been more widely applied.

How serious is the problem of the low productivity of the agricultural worker in Latin America, and how imperative the need for the various measures aimed at raising labour yields, becomes still more patent when productivity in homogeneous units is determined for selected countries. In terms of wheat units, in fact, not only is the lowness of the figures manifest, but it is also clear that the situation differs widely from one Latin American country to another. Argentina, Chile and Uruguay are the countries that utilize their agricultural manpower most efficiently, yet the *per capita* product is only one-half in Argentina and Uruguay, and one-sixth in Chile, of that obtained in the United States and Canada. In other countries, where productivity is lower, such extremes are reached that twenty farm workers annually produce the same quantity of goods as one agricultural labourer in the United States or Canada.

To judge from the research carried out, it is the cerea producers of the temperate zone, including Argentina Chile and Uruguay, a smaller proportion of whose labour force is engaged in farming activities, that on the whole utilize manpower with the greatest efficiency. This is apparently because, except in a few centres, there is no long-standing tradition of agriculture in these countries Up to a point, therefore, land was brought under cultivation with satisfactory techniques and capital, and it was possible for farms to be organized on a commercial basis Again, the staple crops—wheat, oats, barley and rye—can be farmed extensively, and effective, easily-handled mechanized equipment is available and is fairly widely used. Hence labour inputs are small and standards o productivity higher. Although an optimum level has no yet been reached, the productivity of this land is satisfactory in relation to that recorded in other countries where agriculture is more highly developed.

Conversely, it is the countries with tropical agriculture which, while utilizing their manpower less efficiently, employ the largest proportions of their economically active population in farming. In many of them two kinds o agriculture are prevalent: the old traditional type and another, of more recent origin, carried on in the torrid areas. The former still takes up vast tracts of cultivated land, especially in Bolivia, Mexico and Peru, sustaining long-established populations whose *per capita* holdings are usually small and used for subsistence crops, or for cash crops only on a limited scale. In these sectors primitive techniques are applied, and practically no capita is invested. Crops of great importance for the country such as maize and beans, are grown in these unsatisfactory conditions. On the contrary, agriculture in the tropica areas of these same countries is organized on a commercia basis, and is better endowed from the standpoint of both capital and technique; large farms are common, and agriculture itself is highly diversified. It is in these area that Latin America produces most of its sugar-cane coffee, cotton, bananas, tobacco and fruit, commoditie intended mainly for export, so that under the stimulu thus provided a certain amount of technical progress ha been made. Nevertheless, unlike the growing of cereals farming in these areas calls for a high labour input, and the crops concerned do not so readily lend themselves to mechanization. The equipment at present available fo operations with the largest input of manpower—cane cutting and cotton-picking, for example—besides comprising units with high capital intensity, the use of which present wage levels, may prove anti-economic, is in ny cases ill adapted to labour patterns in Latin erica. On the other hand, in most of the countries of region, the productivity of the land is low but offers ple scope for improvement through the widespread plication of more advanced techniques.

---

[1] The term "productivity of labour" is here understood to mean the ratio between agricultural production and the active population employed in the sector.

Despite these differences between the cereal-producing ntries and those with tropical agriculture, all display ne degree of agricultural development which has been ected, *inter alia*, in an increment in the productivity labour. In almost every case, this progress has been e to the application of more or less similar methods. In t, in the six Latin American countries studied, with the eption of Mexico, the increased use of agricultural chinery was the main factor determining the improve-nt in the efficiency of the labour force. Thus, for mple, the availability of tractors per worker and per t of area has expanded remarkably in the last few rs, although satisfactory levels have not yet been ched.

n contrast, very little attention has evidently been voted to raising the productivity of the land. While it true that some steps are being taken to increase the oduct per unit of land, the effort made, which in many es fails to offset the deterioration of large areas, is too ited to have significant repercussions throughout the intry concerned. In cases like those of Argentina and azil, the productivity of the land can plainly be seen to ve declined over wide areas. Mexico is perhaps one of e few countries which has adopted a more comprehensive proach to the problem. Capital has been channelled t only towards mechanization, but also, in an even eater degree, towards those other aspects of technique ich improve the productivity of the soil. Nevertheless, s process does not usually affect the type of subsistence ming that has been carried on for centuries, but the eas recently reclaimed through irrigation, where a pital-intensive and highly productive agriculture is erging and is speedily reforming traditional farming stems.

This uneven development of agriculture, which becomes ore obvious if the analysis is carried back to an earlier te than the beginning of the period under review, gives e to serious problems. Since capital is in short supply in e region, persistence in such a policy might encounter midable obstacles, as capital would be required not ly for the actual purchase of the equipment, but also r absorbing in industry or in other more efficient activi-s that part of the labour force which was released from rm work. If in addition it is recalled that population owth is rapid in Latin America and that the proportion the population engaged in farming is high, it can be en that an exaggerated and inordinate degree of mecha-zation, in default of the necessary capital, may lead to chnological disemployment.

In these circumstances, such little capital as is available uld probably be more advantageously employed in any Latin American countries in raising land yields, ther than in economizing manpower for which no more oductive employment would be forthcoming in other ctors. This is particularly important in the case of rtain tropical crops like coffee, sugar-cane and cotton, for which yields per hectare are very low, and which, apart from employing a great deal of labour at a low level of productivity, involve operations that are difficult to mechanize because adequate equipment is lacking or is anti-economic at current wage levels. In such cases, almost the only way of raising the productivity of labour is to improve land yields.

This does not mean that the same proportion of the population should be retained in farming as productivity rises, since technical progress creates interdependent relationships among the various branches of economic activity which cannot be modifed. The development of the non-agricultural sectors requires additional labour, which must be transferred from agriculture. The difficulty is that if disemployment problems are to be avoided, the labour force released from agriculture must be balanced with additional manpower requirements in other sectors. In the mountain areas the explanation of this situation lies in the conjunction of the low productivity of the land with large labour inputs, consequent upon the lack of machinery, the steep slope of the land, the small areas under cultivation per agricultural worker and the use of virtually primitive techniques and practices. In the coastal districts, on the other hand, farming technique is fairly highly developed, but in addition to the impossibility of mechanizing certain operations—cane-cutting and cotton-picking—for which manpower requirements are heavy, some traditional practices characterized by an excessive use of labour are still carried on.

In the case of Mexico also the existence of two sectors is apparent. In one the land is farmed on traditional lines and productivity is low, results largely depending upon the scanty and irregular rainfall; the main crops grown are maize and beans. In the other a modern type of agriculture is carried on, mainly in the areas benefiting by the irrigation works executed in the last few years. It is in these areas that the use of advanced farming techniques is fairly widespread, and here too the rapid expansion of the production of cotton, wheat, sugar-cane, rice and tomatoes originated.

In Mexico the productivity of the land used for cotton planting is 20 per cent higher than in the United States and the other countries covered by the analysis, with the sole exception of Peru. The situation is also fairly satisfactory with respect to sugar-cane, wheat and rice. Maize, on the other hand, which is the typical crop grown in the area where traditional agriculture prevails, and which during the last three years was sown on an average over 5.4 million hectares yearly, or more than 60 per cent of the whole of the land harvested, registers the lowest yields in Latin America, equivalent to half and one-third of those obtained in Chile and the United States respectively. The immense weight still carried by traditional agriculture brings the average productivity of farm land down to distinctly low levels, which have a direct incidence on the unsatisfactory productivity of labour.

The low standard of efficiency of the farm worker in Venezuela is also directly related to the limited productivity of the land. The impetus given to certain lines of agricultural production in the last few years has determined the creation of a sector, small as yet, where agriculture is of the modern type, and where the principal crops grown are cotton, sugar-cane, sesame and rice. The first two afford medium yields, in consequence of the widespread use of improved techniques. Coffee and tubers, on the other hand, which form part of traditional agriculture, show the smallest yields in all the countries under review.

In Uruguay, average yields for all crops are low. Only in the case of wheat have relatively satisfactory levels been recorded in recent years. Yields of maize and tubers are very small. Figures for the former represent half of what is obtained in Chile and Argentina, one-third of United States yields and one-fifth of those recorded in Canada.

Despite the low productivity of the land, Uruguay utilizes its labour force efficiently, thanks to the widespread use of machinery. In fact, of all the Latin American countries it is Uruguay that has the largest number of tractors and threshers in relation to the areas farmed and under cereals, respectively. On the other hand, figures for the productivity of labour relate to the manpower employed in agriculture and stock-breeding, the standard of efficiency in the latter sector being very high.

An analysis of crops other than cereals once again confirms how important it is, both for Latin American agriculture and for the improvement of the productivity of labour, to raise the current level of land yields.

Many years will elapse before machinery can be generally used for cane-cutting and cotton-picking and before coffee-picking can be mechanized. While it is true that the use of mechanical equipment could be introduced in many operations, it is equally certain that for the moment the sort of technical improvement which is reflected in larger harvests per unit of land offers very hopeful prospects for raising the productivity of the large labour force employed in the production of these crops.

II. AGRICULTURAL LABOUR FORCE AND AVERAGE PRODUCT PER WORKER IN LATIN AMERICA

1. CHANGES IN THE ECONOMICALLY ACTIVE POPULATION IN 1945-55

When an analysis is made of Latin American population statistics the following two salient features are observable: the population grows at one of the highest rates in the world; and the labour supply increases at a slightly higher rate than the population (see table 106).

In the last twenty years, the index of population growth has risen progressively: from 19 per mil in the period 1930-35 to 24 per mil in the last decade. This is mainly due to the systematic reduction of mortality rates combined with a relatively constant birth-rate. The second feature is the growth of urban centres where a higher proportion of women is engaged in economic activities than in rural areas.

At the same time changes in the occupational structure bring about a relative decline of the agricultural labour force. In the last decade the population employed in farming activities increased by 4 million while that occupied in non-agricultural activities grew by 9 million. Consequently, the agricultural labour force is gradually losing ground, though in 1955 it still accounted for 50 per cent of the economically active population. Although high, this figure compares favourably with the 55 per cent registered in 1945 and the 63 per cent recorded in 1925.

The fact that a high percentage of the labour force is employed in farming at a low level of efficiency, much lower than that obtaining in other sectors, is of primary importance for the Latin American economy, since it is

Table 106. Latin America: Total population and economically active population

Year	*Total population* [a]	*Economically active population*			*Agricultural labour force as a percentage of the active population (percentages)*
		Total	*Agricultural sector* [b]	*Non-agricultural sector*	
	(Millions of persons)				
1925	92.8	32.8	20.8	12.0	63
1930	102.5	35.6	22.0	13.6	62
1935	112.3	38.7	23.8	14.9	61
1940	123.3	42.3	25.1	17.1	59
1945	137.5	46.9	25.7	21.2	55
1946	140.6	48.0	26.1	21.9	54
1947	143.8	49.2	26.4	22.8	54
1948	147.3	50.5	26.7	23.8	53
1949	150.8	51.8	27.1	24.7	52
1950	154.6	53.0	27.5	25.5	52
1951	158.3	54.4	27.9	26.5	51
1952	162.0	55.7	28.3	27.4	51
1953	166.0	57.1	28.8	28.3	50
1954	170.0	58.5	29.2	29.3	50
1955	174.0	60.0	29.7	30.3	49
Annual growth rate from 1945 to 1955		2.4	1.4	3.6	
Percentage increase between 1945 and 1955	26.5	27.9	15.5	42.9	

Source: ECLA.

[a] Excluding the forest and jungle population.

[b] Adjusted figures; see table 107.

Table 107. Latin America: Agricultural and non-agricultural labour supply, 1950

	Labour supply (Thousands)					*Percentage of total population employed in agriculture*	
	Total		*Agriculture*		*Non-agricultural*		
	(A)	*(B)*	*(A)*	*(B)*		*(A)*	*(B)*
30 *per cent or less of total labour force employed in agriculture*							
Uruguay	1,016	927	290	201	726	29	22
Argentina	6,850	6,822	1,650	1,622	5,200	24	24
Chile	2,090	2,061	643	614	1,447	31	30
TOTAL	9,956	9,810	2,583	2,437	7,373	26	25
30 *to* 45 *per cent*							
Venezuela	1,688	1,684	705	701	983	42	42
Cuba	1,849	1,818	827	796	1,022	45	44
TOTAL	3,537	3,502	1,532	1,497	2,005	43	43
45 *to* 60 *per cent*							
El Salvador	654	672	413	431	241	63	64
Ecuador	1,237	1,274	611	626	626	49	51
Panama	265	272	132	139	133	50	51
Paraguay	444	462	255	273	189	57	59
Colombia	3,711	3,948	1,991	2,228	1,720	54	56
Costa Rica	272	282	149	159	123	55	56
Peru	3,071	2,788	1,921	1,638	1,150	63	59
Mexico	8,242	8,111	4,824	4,693	3,418	59	58
Brazil	16,909	17,109	10,254	10,454	6,655	61	61
TOTAL	34,805	34,918	20,550	20,663	14,255	59	59
Over 60 *per cent*							
Bolivia	1,448	1,043	1,055	650	393	73	62
Nicaragua	330	352	223	245	107	68	70
Dominican Republic	681	708	466	493	215	68	70
Honduras	649	504	526	381	123	81	76
Guatemala	993	967	749	723	244	75	75
Haiti	1,747	1,298	1,454	1,005	293	83	77
	5,848	4,872	4,473	3,497	1,375	76	72
TOTAL LATIN AMERICA	54,146	53,102	29,138	28,094	25,008	54	53

Source: ECLA.

Notes: 1. Column (*A*) comprises census figures or estimates on the basis of census data; column (*B*) contains figures adjusted for purposes of inter-country comparability.

2. Stress was laid on two aspects when the census figures were adjusted. The first was the number of women employed in farming activities. There are wide variations in the proportion of women working in agriculture according to census figures for the different countries which can only be accounted for by the lack of standard statistical criteria. These adjustments were made on the basis of the geographic, ethnic and economic characteristics of each country. The adjustment was the conversion of working women and men less than 15 and more than 64 years old employed in the agricultural sector to active man-year equivalents.

he main cause of the low income level and unsatisfactory tandard of living of the countries of the region.

There are, however, fundamental differences in the istribution of the agricultural population among individ- al countries according to the natural resources, ecological onditions and stage of development to be found in each. Thus, while 50 per cent of Latin America's active popula- ion is employed in farming, the percentages vary from 0 to 75 for particular countries (see table 107).

The previous figures show that fifteen Latin American ountries, which account for about 75 per cent of Latin merica's active population, still employ more than 5 per cent of their labour force in agriculture. Only three —Argentina, Chile and Uruguay—which together barely represent 18 per cent of the region's total labour supply, employ less than 30 per cent in agriculture.

As a community attains a higher degree of economic development, the population employed in agriculture tends to grow at a much slower rate, to maintain a steady level or to decrease in absolute terms. This is due to the fact that a higher capital input per worker in developed countries makes it possible to release some of the labour force from farming and to raise the output of the remaining agricultural manpower substantially. When the process takes place gradually and spontaneously, with capital investment in the non-agricultural sector to absorb the redundant labour and in the agricultural sector to improve techniques and mechanize operations, total pro-

Table 108. Latin America: Growth of the labour force, 1945-55

Per capita income level [a]	*Agricultural sector*	*Non-agricultural sector*
	(Percentages)	
Over 400 *dollars*		
Venezuela	8	62
Argentina	6	32
Uruguay	—	20
300 *to* 400 *dollars*		
Cuba	−3	47
Chile	2	28
200 *to* 300 *dollars*		
Costa Rica	26	55
Panama	20	51
Mexico	28	49
Colombia	8	52
Brazil	14	50
100 *to* 200 *dollars*		
Guatemala	28	51
Dominican Republic	18	52
Honduras	23	57
El Salvador	18	45
Nicaragua	26	51
Peru	14	35
Ecuador	25	47
Less than 100 *dollars*		
Paraguay	26	50
Bolivia	18	31
Haiti	24	44

Source: ECLA estimates.
[a] At 1950 prices.

duction increases and the product per farm worker rises. If on the contrary, capital investment is channelled exclusively to the non-agricultural sector, the technical level of agriculture will not rise and the product per worker will remain static, at least over the short term, while production may even decline in absolute terms.

Most Latin American countries have a long way to go before reaching that stage of economic development in which agricultural output per economically active person rises to increasingly higher levels with a labour force which is smaller or has been stabilized in absolute terms. Development follows a different course, however, in each country. In the five countries with the highest income level, the agricultural labour force was stable or grew by less than 10 per cent during the last decade (see table 108).

2. Output per worker in Latin American agriculture

(a) *Present status and comparison with the non-agricultural sector*[2]

One of the most serious problems in Latin America is the enormous and exaggerated variation in the output per worker according to occupation. The contribution to the gross product made by an agricultural worker is less than 30 per cent of that corresponding to a non-agricultural worker. In other words, three and a half persons employed in agriculture contribute as much as one person engaged in other activities (see table 109 and figure XVII).

Table 109. Latin America: Labour force by main branches of economic activity and product per worker, 1950

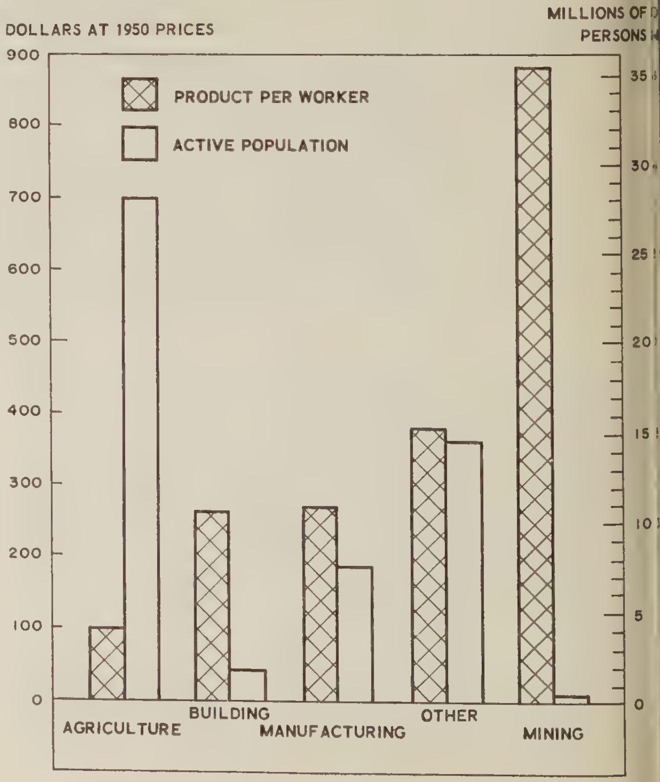
	Active population (millions)	*Gross product index per worke (agriculture = 100)*
Total Latin America	*53.1*	*215*
Agricultural sector		
Farming	28.1	100
Forestry		
Fishing		
Non-agricultural sector	25.0	350
Mining	0.6	880
Manufacturing	7.7	270
Building	2.0	265
Others	14.7	380

Source: ECLA.
[a] Dollars at 1950 prices.

Figure XVII

LATIN AMERICA: PRODUCT PER WORKER AND ACTIVE POPULATION BY ECONOMIC ACTIVITIES, 1950

Natural scale



---

[2] The measurement of the product per worker for different sectors was based on the gross product figures calculated by ECLA, in dollars at 1950 prices. The analysis was made for the year 1950 because census employment data for that year were available for most countries. The information given in table 4 does not wholly reflect the present situation, but the basic conclusions are practically the same.

ining, which absorbs only 1 per cent of the active ulation, yields a gross product nine times higher than t of agriculture. The production of petroleum, coal, per, nitrate, etc. is concentrated in highly capital-ensive enterprises which have introduced and keep east of the most efficient systems, equipment and lities. Agriculture, on the other hand, is the least ital-intensive sector of the Latin American economy it includes an abundance of small farmers who work many cases at subsistence levels, with little capital and ng very primitive techniques. In addition, both small mers and large land-owners, with few exceptions, are uctant to adopt new agricultural practices. From the nt of view of the product per worker, agriculture is in an unfavourable position with respect to the nufacturing industry and to building.

Such a marked difference in the output per worker has further drawbacks: first, 50 per cent of the total our force in Latin America is still employed in agriture; and, second, the output in the non-agricultural tors is still very limited.

The differences with respect to the product per worker reflected in similar disparities in income and standards living. In many countries, and in certain regions of a en country, this implies that a major part of the population does not participate in trade activities, because it es not play an active role in the the demand and supply goods and services. The primitive tilling of the land vides it with foodstuffs, some fibres for the home nufacture of clothing and occasional surpluses which not always reach the normal channels of trade but are rtered locally.

In developed countries, techniques and productivity ve evolved gradually and have affected all branches of economy. There are no such marked variations as to pital intensity per gainfully employed person, so that product per worker in different sectors tends to become standardized and, in some countries, is even higher agriculture (see table 110).

Of the seven Latin American countries listed in table 5, ly in Argentina is the product per worker ratio between th sectors similar to that of advanced countries because its income level of over 400 dollars per year. In such ge countries as Mexico and Brazil, however, which ploy about 60 per cent of their labour force in farming tivities, the product per worker is equivalent to only and 35 per cent of that corresponding to the non-agricultural sector; there is the added disadvantage that both ve a low level of *per capita* income (200-300 dollars nually). In Ecuador the disequilibrium is not so pat-t, but in this case there is a lack of development and very low income level (less than 100 dollars annually *per pita*), while non-agricultural activities, mostly comising homecrafts, are also relatively inefficient.

In other countries the situation is very different. In ew Zealand and the United Kingdom, for instance, riculture is the sector which employs manpower most ficiently. In Denmark the product per agricultural orker is only 13 per cent lower than in other sectors; in anada, about 30 per cent and in the United States, 45 er cent. In the last two countries, the disparities are less significant since, given their high income level, they reflect the extraordinary technical progress of the industrial sector and of services.

Table 110. Output per economically active person employed in agricultural and non-agricultural activities in selected countries[a]

Country	*Year*	*Agricultural sector* (Indices)	*Non-agricultural sector* (Indices)	*Percentage of the labour force employed in agriculture*
Latin America	1950	100	257	52.4
Argentina	1953-55	100	141	25
Brazil	1950	100	290	61
Mexico	1950	100	544	58
Chile	1952	100	235	30
Colombia	1953	100	200	54
Honduras	1949-51	100	243	76
Ecuador	1950	100	163	51
United Kingdom	1951	100	90	5
Canada	1950-52	100	145	19
United States	1950	100	185	12
New Zealand	1950	100	60	22
Denmark	1953	100	115	24

Source: For the population: International Labour Organisation, *Yearbook of Labour Statistics*, 1954; for income: United Nations, *Statistical Papers*, Series No. 8 and No. 9; *Statistics of National Income and Expenditure.*

[a] The calculation was made for a census year to avoid the need for population estimates. When agricultural production in the year thus selected was abnormal, a three-year average was used. The gross product per worker for the whole of Latin America was calculated on the basis of the gross product figures estimated by ECLA in dollars at 1950 prices.

(b) *Efficiency of agricultural manpower in selected countries.*

It is interesting to compare the efficiency with which manpower is employed in the agricultural sector of different countries. To do so it is necessary to choose an adequate weighting in order to reduce the agricultural production of the countries in question to standard terms. The wheat unit, used by FAO for regional and world production estimates, was selected from among various alternatives.[3]

Deficiencies in Latin American statistics have limited this analysis to only eight countries of the region, plus the United States and Canada which served as points of reference. The calculations were made on the basis of three-year production periods, in order to smooth out fluctuations deriving from natural factors (see table 111).

The figures show that the product per worker in Latin

---

[3] The use of the wheat unit implies that a similar price ratio exists in all countries for all commodities. It is a well-known fact that pricer atios among commodities vary from country to country sometimes substantially, and so does the significance of each commodity for the agricultural sector. In order to determine to what extent such variations could invalidate the conclusions, the calculations were repeated on the basis of wheat units estimated for each country in particular. That is to say, in each case actual price ratios between wheat and other commodities were applied. The results were very similar to those obtained with the FAO weighting, and, what is more important, the input/output ratios among countries remained virtually unaltered.

Table 111. Product per agricultural worker in selected countries

Country	*Years (Averages)*	*Agricultural production (Millions of wheat units)*	*Active population (Thousands)*	*Product per worker (Wheat units)*
Canada	1952-54	4,330	907	4,775
United States	1952-54	36,195	8,580	4,220
Uruguay	1952/53-1954/55	546	198	2,760
Argentina	1952/53-1954/55	4,069	1,845	2,205
Chile	1952/53-1954/55	468	606	770
Brazil	1953-55	4,807	10,678	450
Colombia	1951-53	1,004	2,237	450
Mexico	1953-55	1,562	5,397	290
Venezuela	1953-55	176	692	255
Peru	1952-54	416	1,666	250

Source: ECLA, on the basis of national official production statistics.

America does not compare favourably with that of the United States or Canada. There is not much difference between the latter two countries, though Canada shows a small positive balance.

Of the Latin American countries included in table 111, Uruguay, Argentina and, to a less extent, Chile are those which obtain the highest returns per agricultural worker. Nevertheless, the level obtained in Argentina and Uruguay is only about half that registered in the United States and Canada; Chile's is only about one fifth to one sixth, and that of the remaining countries ranges from one tenth to one twentieth. In other words, the agricultural commodities produced by one person in Canada or the United States require for their production two persons in Uruguay and Argentina, five to six in Chile and ten to twenty in Brazil, Colombia, Mexico, Peru and Venezuela.

If the data in table 111 are analysed from another point of view, it may be noted that in Brazil, with an active population of 10.7 million, agricultural production equals 4,800 million wheat units, while in the United States, with a smaller active population (8.6 million), 36,200 million wheat units are produced, that is 7½ times more.

When efficiency levels for each country are compare with the labour force employed in agriculture, it may b seen again that, as manpower requirements decline, th average output per worker tends to rise. Of the countrie under review, the United States, Canada, Uruguay Argentina and Chile employ less than 30 per cent of thei labour supply in agriculture and they are, moreover, thos which produce the largest volume of agricultural produc per worker (see tables 107 and 111 and figure XVIII)

Figure XVIII

AGRICULTURAL MANPOWER, PRODUCT PE WORKER AND PERCENTAGE OF TOTA LABOUR SUPPLY IN SELECTED COUNTRIE

Natural scale

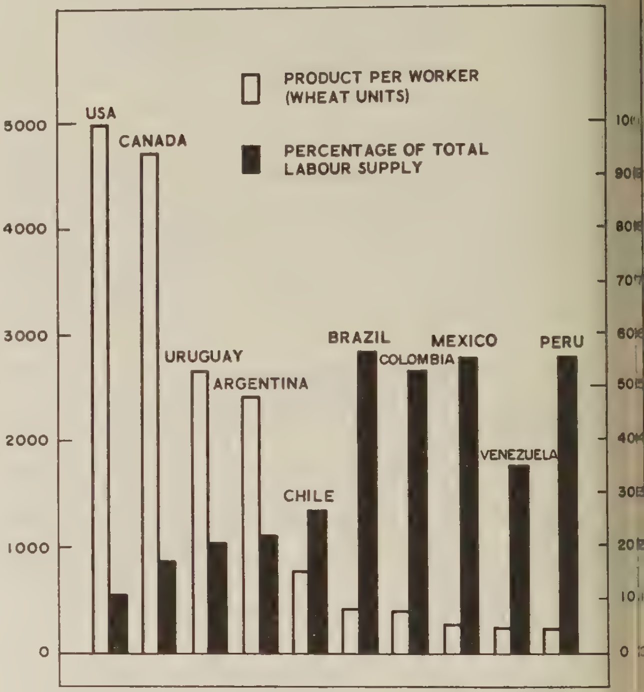


Table 112. Latin America: Gross product[a] per worker by branches of economic activity

(1945 = 100)

Year	*Agriculture*	*Non-agricultural activities*	*Mining*	*Manufacturing*	*Building*	*Services*
1946	105	106	104	105	108	107
1947	107	107	114	108	104	108
1948	112	109	123	112	103	108
1949	112	109	124	112	99	108
1950	113	113	136	118	102	110
1951	115	116	151	123	105	112
1952	117	114	159	122	112	107
1953	120	114	156	124	112	106
1954	124	117	164	129	112	109
1955	128	118	175	132	108	110
Difference between 1945-47 and 1953-55	+18	+12	+56	+24	+8	+3

Source: ECLA.

[a] Calculated in dollars at 1950 prices.

(c) *Development in Latin America*

During the last ten years there has been a widespread provement in the productivity of labour in Latin erica. The largest percentage increases were registered mining and manufacturing, which rose by 60 and 24 cent respectively. In agriculture the increment was y 18 per cent, and in building activities and services it s still smaller (see table 112).

There is no doubt that the recent development of the icultural sector cannot be regarded as adequate. This ertion is confirmed by the technological advances of last few decades, which have revolutionized tradinal methods and systems of farming. The efforts in direction of conserving and protecting natural rerces and improving agricultural practices which were tiated by the more highly developed countries early the 'thirties, and were considerably intensified during after the Second World War, have placed a complete hnique at the disposal of farmers, thanks to which, in se countries where it has been introduced, the producity of land and labour has increased far more than in tin America.

Furthermore, the progress described must be considered satisfactory because of the very low standards still evailing in the over-all productivity of manpower in tin America, and, above all, on account of the vast ference between the labour forces employed in the ricultural and non-agricultural sectors. Since, in the al issue, the income and standard of living of the worker pends upon the level of productivity, if the present unsirable situation of the agricultural sector is to be proved in the necessary degree, its efficiency must be veloped at a much higher rate—more rapidly indeed an that of the other sectors—so that gradually, and thin relatively reasonable periods, the present disrities between the income and standard of living of the ricultural and the arban worker may be eliminated.

This is the trend which has emerged in the last decade countries like Canada, the United Kingdom, the ited States and Sweden, where agricultural techniques show real signs of progress and labour productivity, apart from having reached a much higher level than in Latin America, has risen at a more rapid rate than in very efficient activities like manufacturing, which are highly permeable to technological changes.[4] Under these circumstances the differences between the efficiency of agricultural and non-agricultural labour have been disappearing gradually, or at least have become less significant.

(d) *Development by selected countries*

The output of the agricultural labour force followed a very different course during the last decade in the individual countries of Latin America. Between 1945-47 and 1953-55 it declined in Argentina.[5] It improved by a modest 7 and 12 per cent respectively in Chile and Colombia, while in Brazil and Uruguay, in contrast, it was slightly more than 20 and 30 per cent respectively. Mexico registered a percentage increase of over 40 per cent, the same as in the United States (see table 113).

Since the product per worker differs from country to country, the percentage increase for each also varied very widely in absolute terms. Thus, for example, the increase observable in the United States, albeit similar to that registered in Mexico, is equivalent to 1,200 units per worker in terms of wheat as against only 85 for Mexico (see figure XIX).

Of the three Latin American countries which employ their agricultural labour force with the greatest efficiency, only Uruguay shows a significant percentage improvement. Mexico, conversely, with one of the lowest levels of output per worker, registered an increase of about 40 per cent, while in Brazil the low level rose by almost one quarter.

Such widely divergent developments in each country are also due to different approaches towards agricultural

---

[4] See FAO, *The state of food and agriculture*, 1955. *Review of a decade and outlook*, C55/4, Rome, October 1955.

[5] See footnote 15.

Table 113. Indices of the output of the agricultural labour force in selected Latin American countries and the United States

(1945 = 100)

Year	*Argentina*	*Brazil*	*Mexico*	*Colombia*	*Chile*	*Uruguay*	*United States* [a]
1946	104	108	103	104	101	113	106
1947	106	109	104	107	105	104	107
1948	108	113	114	106	108	113	121
1949	98	117	118	115	109	126	121
1950	92	121	133	104	104	130	130
1951	95	119	131	111	102	148	131
1952	81	125	123	119	103	144	139
1953	105	124	131	119	105	152	143
1954	103	127	149	117	110	163	146
1955	108	139	156	120	112	158	147
Percentage variation between 1945-47 and 1953-55	−8 [b]	22	42	12	7	31 [b]	40

Source: ECLA, on the basis of national official production statistics.

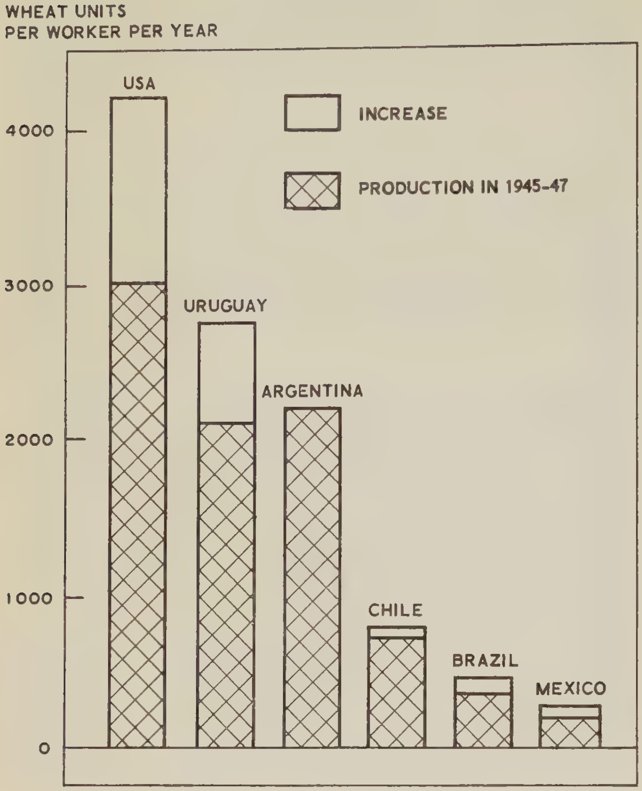
[a] Productivity per man hour.

[b] Refers to the percentage difference between the two halves of the decade.

Figure XIX

OUTPUT OF THE AGRICULTURAL LABOUR FORCE AND INCREASE BETWEEN 1945-47 AND 1953-55 IN SELECTED COUNTRIES

Natural scale



problems. In some cases, the mechanization of agriculture has been successful in reducing labour inputs per unit of soil and has thus released labour from agriculture. In others, the improvement in the product per worker has been the result of increased land yields or of the combination of both factors.[6]

In Mexico the area sown between 1945-47 and 1953-55 increased in a much smaller proportion than production and was reflected in an extraordinary improvement in land yields (49 per cent) (see table 114).

The agricultural labour supply grew at about the same rate as the population and therefore the area harvested per worker remained almost constant. The notable progress in mechanization made it possible for the new land brought under tillage to be grown with crops with a higher production per hectare than secular farm areas. Some of these crops, like sugar-cane and cotton, are highly labour-intensive.

Table 114. Mexico: Land yields, output per worker and some of their components

(1945-47 = 100)

	Annual average	
	1945-47	*1953-55*
Production of crops [a]	100	188
Area harvested [b]	100	126
Land yields	100	149
Area tilled per worker [c]	100	103
Tractor park [d]	100	347
Tractors per 1,000 hectares under tillage [e]	100	272
Tractors per 1,000 active persons [f]	100	286
Total agricultural production	100	174
Active population [g]	100	122
Product per worker [g]	100	142

Source: ECLA, on the basis of official statistics.

[a] Excluding livestock.

[b] Excluding pasture land, which in 1945-47 covered 6,482,000 hectares.

[c] 1.46 and 1.51 hectares in 1945-47 and 1953-55 respectively.

[d] 15,980 and 55,500 tractors in each three-year period.

[e] 2.5 and 6.8 tractors respectively.

[f] 3.6 and 10.3 tractors.

[g] Labour force employed both in crop and livestock farming.

Mexico is the Latin American country which has displayed the greatest efforts to improve production and the technical conditions of agriculture. The official development policy, which covers several aspects, has played an important role in this development. It should be noted, for example, that investment was deliberately channelled towards agriculture, particularly for irrigation,[7] flood control and road building. This opened up vast new lands for intensive farming and gave access to areas which were previously entirely isolated from the market.

All these factors have combined to bring into existence a new agriculture, which is concentrated in the areas recently reclaimed by irrigation and in which cotton, wheat, sugar-cane, rice and tomatoes are efficiently cultivated. This sector has attracted virtually the whole recent increase in the use of certain input materials, like fertilizers, insecticides, weed-killers, improved seed, machinery, etc., which have led to a remarkable improvement in land yields and high levels of product per worker.

Conversely, in traditional agriculture, in addition to the very small tillage area and low product per worker, little progress was apparent in agricultural technique. But the use of selected maize and bean seed, typical crops of the area, has been helping to raise the low yields of the land in recent years.

In *Uruguay*, as in Mexico, the marked improvement in the product per worker was due to increased land yields and larger machinery stocks (see table 115).

It is estimated that during the last decade[8] the labour force employed in Uruguay's crop and livestock farming sectors remained practically stationary. Yet, the area sown to staple crops expanded by about 30 per cent between both five-year periods. Consequently, the area

---

[6] No data are available for a separate analysis of the changes in product per worker in the crop and livestock sectors. But, as improvements, if any, in the livestock sector are sure to be very small, it has been assumed in the following country analysis that the main changes in the product per worker occurred in the crop sector.

[7] The area under irrigation expanded from 816,000 to 2.2 million hectares from 1946 to 1952.

[8] In the case of Uruguay the two five-year periods are compared because a comparative analysis of the extreme three-year periods, as was made for other countries, could be misleading since the first covers three exceptionally bad farm years while the latter was an extraordinarily good period.

le 115. Uruguay: Land yields, output per worker and some of their components

(1945-49 = 100)

	Annual average	
	1945-49 [a]	1950-54
production [b]	100	162
ea harvested [c]	100	130
nd yields	100	124
tilled per worker [d]	100	131
tor park [e]	100	302
actors per 1,000 hectares under tillage [f]	100	193
actors per 1,000 active persons [g]	100	300
cultural production	100	131
ve population [h]	100	100
oduct per worker [h]	100	131

urce: ECLA, on the basis of official statistics.

Since 1947 was an exceptional year, production of wheat, , barley, beans, sunflower-seed and peanuts was computed on basis of yields in 1946 and 1948. For maize 1945 was the ormal year and therefore average yields for 1944 and 1946 e used.

Excluding livestock.

1,035,000 and 1,347,000 hectares in 1945-49 and 1950-54.

5.1 and 6.7 hectares per active person.

8,000 and 24,100 units respectively.

8.8 and 17 tractors per 1,000 hectares under crops.

40 and 120 tractors per 1,000 active persons.

Manpower used in the crop and livestock sectors.

Table 116. Brazil: Land yields, output per worker and some of their components

(1945-47 = 100)

	Annual average	
	1945-47	1953-55
Crop production [a]	100	133
Area harvested [b]	100	134
Land yields	100	100
Area tilled per worker [c]	100	120
Tractor park [d]	100	460
Tractors per 1,000 hectares under tillage [e]	100	320
Tractors per 1,000 active persons [f]	100	410
Agricultural production	100	137
Active population [g]	100	112
Product per worker [g]	100	122

Source: ECLA, on the basis of official statistics.

[a] Excluding livestock.

[b] 15.6 and 20.8 million hectares.

[c] 1.62 and 1.95 hectares per active person.

[d] 8,500 and 39,000 tractors.

[e] 0.55 and 1.87 tractors.

[f] 0.9 and 3.7 tractors.

[g] Labour force of both crop and livestock sectors.

ned per worker rose from 5.1 to 6.7 hectares, thanks ticularly to the marked increase in machinery stocks. instance, tractor inventories per tilled hectare dou- l and the *per capita* availability trebled.

n view of the fact that the harvest increased by 62 per t, land yields rose by 24 per cent, but this significant ement in land yields cannot be attributed to the eral improvement of agricultural techniques through- Uruguay. In essence, it is due to an expansion of eat sowings and yields[9] thanks to the use of the best s in the country for this crop, the sowing of improved d, fertilizing[10] and good weather conditions.

n *Brazil* (see table 116) the product per worker also reased, but not for the same reasons as in Mexico and uguay; it was due exclusively to an increase in machin- inventories. Between the three-year periods men- ned, agricultural production increased at the same centage rate as the cultivated area and thus average lds remained stationary. But, in view of the fact that ing the past decade more than 5 million hectares of v, recently cleared, virgin land have been brought ler tillage, which must be more fertile than that which been farmed for years, and that fertilizer inputs per tare have increased more than threefold[11] and other ctices have been introduced, it would appear that the k of progress recently reported in land yields is due to diminished productivity because of the loss in natural fertility.

The increase in machinery stocks resulted in a 20 per cent increment in the area tilled per worker, with a similar rate of improvement in output per active person.

Chile displays special characteristics which are not easy to explain. The small rise in the product per worker (7 per cent) does not match the development of the factors which determine the efficient use of manpower. Agricultural production expanded by about 15 per cent, while the area under crops grew by 5 per cent, and thus land yields rose also by about 10 per cent (see table 117).

In addition, as the active population increased by 2 per cent in the period under review, the tillage per farm worker expanded by only 3 per cent. The latter figure and the 7 per cent rise in the product per worker are not proportionate to the efforts made to mechanize farming operations. The tractor park increased from 3,700 to 12,500 units, so their number per unit of cultivated area and active population was more than three times as high.[12] Nor is the situation attributable to changes in the structure of agricultural production which may have altered the pattern of employment.

Hence the question arises why the increase in machinery inventories has not resulted in a greater expansion of total agricultural production, output per worker, or both. Without going further into the problem, it is possible only

---

Between the five-year periods the area under wheat expanded n 420,000 to 572,000 hectares, while yields improved from to 925 kilogrammes per hectare.

In 1955 about 60,000 tons of fertilizers were used, or about ce as much as in 1951.

In 1945, 90,400 tons of fertilizers were used in Brazil, i.e., an rage of 6 kilogrammes per hectare. In the three-year period 3-55, consumption rose to 426,000 tons annually, or slightly e than 18 kilogrammes as an average per hectare.

[12] Moreover, in the three-year period 1946-48, according to the Department of Agricultural Economics of the Ministry of Agriculture, there were 1,240 equipment units in the country, comprising automotive vehicles, threshers and combines, representing one unit of equipment per 760 hectares under wheat, oats, barley and rye. In 1953-55 such equipment increased to 2,175 units, i.e., an additional unit per 305 hectares.

Table 117. Chile: Land yields, product per worker and some of their components

(1945-47 = 100)

	Annual average	
	1945-47	*1953-55*
Crop production [a]	100	115
Area harvested [b]	100	105
Land yields	100	110
Area tilled per worker [c]	100	103
Tractor park [d]	100	340
Tractors per 1,000 hectares under tillage [e]	100	330
Tractors per 1,000 active persons [f]	100	330
Agricultural production	100	110
Active population [g]	100	102
Product per worker [g]	100	107

Source: ECLA, on the basis of official statistics.

[a] Excluding livestock.

[b] 1,388,000 hectares in 1945-47 and 1,458,000 hectares in 1953-55, excluding land under artificial pasture.

[c] 2.34 and 2.41 hectares.

[d] 3,670 and 12,500 tractors.

[e] 2.6 and 8.6 tractors.

[f] 6.2 and 20.6 tractors.

[g] Labour force employed in both the crop and livestock sectors.

Table 118. Argentina: Land yields, product per worker and some of their components

(1945-49 = 100)

	Annual average	
	1945-49	*1950-54*
Production of crops [a]	100	110
Area under seed [b]	100	92
Harvested area [c]	100	97
Land yields [d]	100	113
Area under seed per active person [e]	100	87
Harvested area per active person [f]	100	92
Tractor park [g]	100	162
Tractors per 1,000 hectares under seed [h]	100	179
Tractors per 1,000 harvested areas	100	162
Tractors per 1,000 active persons [i]	100	150
Agricultural production	100	102
Active population	100	105
Product per worker [j]	100	97

Source: ECLA, on the basis of official statistics.

[a] Excluding livestock (see explanation in footnote 15).

[b] Effective area under seed, excluding that sown to alfalfa and other grasses used for pasture, which covered 19.1 million hectares in 1945-49 and 17.6 million in 1950-54.

[c] Computed according to the method described in footnote 15 13.3 and 12.9 million hectares respectively.

[d] On the basis of harvested area.

[e] 11.1 and 9.7 hectares.

[f] 7.7 and 7.1 hectares.

[g] 27,500 and 44,600 units.

[h] 1.4 and 2.5 tractors.

[i] 16 and 24 tractors.

[j] Agricultural production calculated as outlined in foot note 15

[k] Labour force employed in both the crop and livestock sectors

to offer some tentative explanations. Attention should be drawn to the Chilean farmer's tendency to keep a larger mechanical traction force than he really needs, with the consequent under-utilization of equipment.[13] Moreover, given Chile's agrarian structure, mechanization must have had a different impact on the product per worker according to the size of farm holdings. Most of the additional mechanical equipment available is found in large and medium-sized holdings, where, on account of the resulting decrease in labour input, the product per worker has certainly risen much higher than the country average. Small-scale farmers,[14] conversely, have not participated in this improvement and, to make matters worse, they lost some or all of the opportunities of finding part-time employment in larger farms in tilling, sowing and harvesting, the main operations which have been mechanized. Their product per worker must therefore have dropped.

It should also be pointed out that the mechanization of farming in Chile, far from forming part of a systematic programme of agricultural development, was an isolated undertaking. The manpower released by the growing use of machinery was not employed in bringing new areas under cultivation or in intensifying farming operations in traditional areas. While the practical benefits which entrepreneurs have derived from mechanization must not be under-estimated, the larger availabilities of machinery, in view of the lines along which production has developed, have probably helped to aggravate the chronic under-employment observable in rural areas in Chile.

Lastly, attention should also be called to the fact that demand for manpower in the urban sectors was not strong enough to bring about a major shift from the country to the towns.

Between the two five-year periods of the decade 1945-54, agricultural production in *Argentina* might possibly have expanded by 10 per cent, but for bad weather, and the area harvested would probably have been reduced by 3 per cent, which would have given an increment of 13 per cent in land yields[15] (see table 118).

As regards tractors, fairly substantial progress was achieved in this last decade, since the park increased by 60 per cent, and consequently availabilities per agricultural worker and per hectare under seed improved by 50 and 80 per cent, respectively. Nevertheless, despite the apparent increase in land yields, the productivity of ultural labour declined by 3 per cent.[16] This evolu- can be more readily understood if it is noted that the uctivity of manpower in Argentina differs radically one district to another. Generally speaking, the est levels of efficiency are attained in the pampa [17] According to a recent survey,[18] 70 per cent of ntina's agricultural and livestock production is ob- d in the pampa; the remainder of the country contri- s only the remaining 30 per cent, but on the other it absorbs 55 per cent of the whole labour force, ex- sed in terms of working days. That is, the producti- of agricultural labour is 85 per cent more efficient in pampa area than in the rest of the country. If a parison is drawn between the agricultural labour in the pampa, mainly employed in growing cereals oleaginous crops, and that engaged in farming acti- s in the rest of the country, excluding the cultivation uit and vegetables, where efficiency is highest, the between their levels of productivity is 1 to 4.

---

[13] See ECLA, *Analysis of some factors which act as an obstacle to the increase of agricultural production* (E/CN.12/306).

[14] According to the 1936 census farms covering less than 20 hectares numbered more than 129,000 holdings out of a total of 200,000 and accounted for 1.6 per cent of the total farming area.

[15] The analysis of land yields in Argentina was not based on the same periods as for other countries because, as in the case of Uruguay, during the first three-year period abnormally low yields were obtained, while they were exceptionally high in 1953-55. In order to eliminate such a source of error, the low maize yields and small area harvested in 1950 were replaced by the average area and yields for 1949 and 1951. Likewise, the low wheat and rye yields obtained in 1952, as in the previous case, on account of adverse weather conditions, were replaced by the area and yield averages for the immediately preceding and following years. In these circumstances, the agricultural production index shown in tables X-XIV rises by 10 per cent, when, in reality, production between both five-year periods did not vary. This makes it possible to trace the changes in the productivity of the land more realistically. Neither were actual production figures used in the calculation of the product per worker, but those given by the addition of real livestock production figures to agricultural production calculated as described.

here are various reasons for the wide disparities in efficiency of Argentina's agricultural labour force. he case of the pampa, the explanation lies in the urable topographical and physical soil conditions, h facilitate the use of machinery; in the kinds of s grown (cereals and oil-seeds), which, with the excep- of maize, require little labour and can be wholly hanized; and in the unusually good environmental ditions for livestock, which make it possible to prac- extensive cattle farming with a small labour input. high productivity of the worker in the pampa is efore mainly attributable to the natural character- s of the area. Man's share in raising standards of iency has been confined to putting machinery to k. But on the other hand, by exhaustively exploiting ural resources along traditional lines, without applying able conservation techniques, he is lowering land ds to the detriment of productivity.

ut nature is less bountiful in the rest of the country, tly, because the natural resources there demand greater rt and, secondly, because the ecological conditions are ed for farming which requires a greater labour input e the land can be mechanized only partially or with at difficulty, if at all. In these areas, Argentina pro- es most of its fruit, practically all its tobacco, cotton, ar-cane, wine, tea, maté, etc. Some of these crops, for ance sugar-cane and cotton, do not always find the st suitable ecological conditions so that small yields hectare are obtained in comparison with those of other ntries.

n brief, while the pampa region provides both the best ural resources and optimum ecological conditions for natural development of crops and livestock, it is etimes necessary to adopt artificial measures in the of the country.

n recent years there has been a significant shift in the tern and trends of agricultural production in Argentina. Sowings of staple crops in the pampa region, intended primarily for export, have contracted by about 1.9 million hectares (see table 119).

Table 119. Argentina: Area sown to cereals and oil-seeds and other crops

(Thousands of hectares)

	1945-49	1950-54	Variation	
			Absolute	Percentage
Total area under seed [a]	19,189	17,624	−1,565	− 8
Cereals and oil-seeds [b]	17,314	15.436	−1,878	−11
Other crops	1,875	2,188	313	+17

Source: Ministry of Agriculture.

[a] Excluding forage crops like alfalfa and sudan grass.

[b] Comprises wheat, maize, oats, barley, rye, canary-seed and rice, linseed and sunflower-seed.

On the contrary, sowings in the rest of the country, mainly for domestic consumption, have expanded by more than 300,000 hectares. If the comparison is made with a more distant past, the redistribution of crops becomes more evident. This implies that the labour force is also distributed in a different way, with a lower concentration in the sectors with the highest product per worker and an increase in the rest. The redistribution of crops partly obscures the decline in land yields over vast areas, since the share of those with the highest production intensity per hectare has increased. If land yields are estimated according to whether the land is under wheat, under other cereals and oil-seeds or under the remaining crops, the 13 per cent increase which appears in table 13 can be broken down into a 9 per cent rise for wheat yields and an 8 per cent increment for the remaining crops, which cover less than 2 million hectares outside the pampa area. Conversely, the land yields for the staple crops of the pampa area—other cereals, except wheat and oil-seeds, covering 6 million hectares—declined by 2 per cent. Hence it is patent that natural soil fertility is seriously deteriorating in the pampa (see table 120).

Table 120. Argentina: Land yields by groups of crops[a]

(1945-49 = 100)

	1945-49	1950-54	Percentage variation
Wheat			
Harvested area (thousands of hectares)	4,592	5,163	12
Land yields	100	109	9
Cereals and oil-seeds, excluding wheat			
Harvested area (thousands of hectares)	7,030	5,840	−17
Land yields	100	98	−2
Other crops			
Harvested area (thousands of hectares)	1,695	1,942	15
Land yields	100	108	8

Source: ECLA, on the basis of official statistics.

[a] Land yields have been calculated with the adjustments indicated in the footnote 46, in order to eliminate possible sources of error.

If real production figures are considered, the productivity nanpower falls by 80 per cent.

The pampa covers most of the provinces of Buenos Aires, doba, Santa Fe, Entre Ríos and La Pampa.

See *The economic development of Argentina* (E/CN.12/429), e published shortly.

Table 121. United States: Land yields, output per active person and some of their components

(1945-47 = 100)

	Annual average	
	1945-1947	1953-1955
Agricultural production [a]	100	108
Harvested area [b]	100	98
Land yields	100	110
Harvested area per active person [c]	100	118
Tractor park [d]	100	169
Tractors per 1,000 harvested hectares [e]	100	172
Tractors per 1,000 active persons [f]	100	202
Maize harvesters [g]	100	211
Maize harvest area [h]	100	94
Harvesters per 1,000 hectares under maize [i]	100	225
Cereal harvesters [j]	100	219
Cereal harvester area [k]	100	97
Harvesters per 1,000 hectares [l]	100	227
Total agricultural production	100	115
Active population	100	83
Output per worker	100	140

Source: United States Department of Agriculture.

[a] Excluding animal products.

[b] 139.6 million hectares in 1945-47 and 136.9 million in 1953-55.

[c] 13.7 and 16 hectares.

[d] 2,482,000 and 4,188,000 tractors.

[e] 17.8 and 30.6 tractors.

[f] 243 and 492 tractors.

[g] 302,000 and 638,000 harvesters.

[h] 34.8 and 32.6 million hectares.

[i] 8.7 and 19.6 harvesters.

[j] 420,000 and 918,000 cereal harvesters.

[k] Comprises areas under wheat, oats, barley, rye, rice, sorghum and linseed, 54 and 52.8 million hectares.

[l] 7.7 and 17.5 harvesters.

Table 122. Some factors which affect output per worker and land yields

(1945-47 = 100)

	Annual averages		Percentage variation
	1945-47	1954-55	
Hectares tilled per active person			
Mexico	1.46	1.51	3
Brazil	1.60	1.90	20
Uruguay	5.10	6.70	31
Chile	2.30	2.40	3
Argentina [b]	7.70	7.10	−8
United States [b]	13.70	16.00	18
Index of production per agricultural worker			
Mexico	100	142	42
Brazil	100	122	22
Uruguay	100	131	31
Chile	100	107	7
Argentina	100	97	−3
United States	100	140	40
Index of crop yields			
Mexico	100	149	49
Brazil	100	100	—
Uruguay	100	124	24
Chile	100	110	10
Argentina	100	113	13
United States	100	110	10
Tractors per 1,000 active persons			
Mexico	3.6	10.3	185
Brazil	0.9	3.7	310
Uruguay	40.0	120.0	200
Chile	6.2	20.6	230
Argentina	16.0	24.0	50
United States	243.0	492.0	102
Tractors per 1,000 hectares under tillage			
Mexico	2.5	6.8	172
Brazil	0.6	1.9	220
Uruguay	8.8	17.0	93
Chile	2.6	8.6	230
Argentina [b]	2.1	3.4	62
United States [b]	17.8	30.6	72

Source: ECLA, on the basis of official statistics.

[a] In the case of Argentina and Uruguay the comparison is drawn between the periods 1944-49 and 1950-54.

[b] Harvested area.

For the sake of comparison, a similar analysis is given below of agriculture in the United States, where intensive technological improvements have been introduced in recent years with extremely favourable results (see table 121).

The 40 per cent improvement in the output per worker in the United States was obtained as a result of a record level of capital formation in agriculture. The use of machinery made it possible to reduce labour inputs,[19] while the introduction of improved farming techniques raised land yields. Between the first and the last three-year periods of the 1945-54 decade, agricultural production in the United States rose by 15 per cent while the active population declined by 17 per cent. Production in the agricultural sector was 8 per cent larger, although the tillage contracted by 2 per cent, so that land yields improved by 10 per cent.

The mentioned percentage improvement in the product per worker is more significant, in view of the high technological level reached by the United States, than it is at the early stages of development of the Latin American countries. In the former, the marginal product per unit of additional capital is becoming increasingly smaller and perhaps it is inferior to that which could be obtained in Latin American countries by means of additional investment and technical improvements in agriculture.

A review of the changes which have taken place in individual Latin American countries during the las decade clearly shows that efforts have been made in al of them to mechanize farming operations. The numbe of tractors per agricultural worker more than trebled except in Argentina where they increased by only 50 pe cent. Equipment availabilities per unit of area also showed an improvement ranging from 60 per cent in Argentina to about 250 per cent in Brazil and Chile

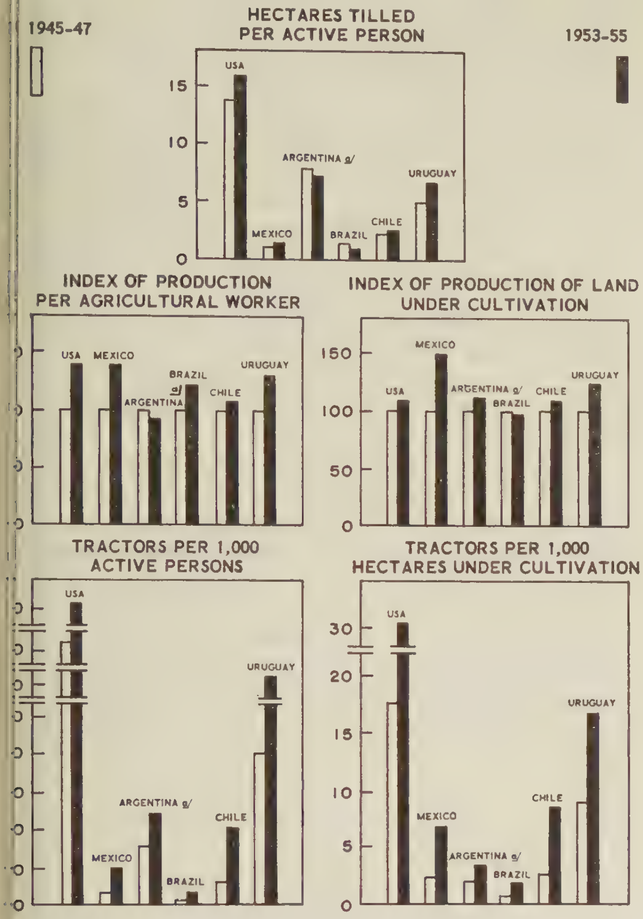
---

[19] Thus, for example, the tractor park has increased by about 70 per cent, which means that in the three-year period 1953-55, there was one tractor for every 31 hectares harvested. The availability of cereal harvesters more than doubled so that the availability of such equipment increased from 8 to 18 units per 1,000 hectares under cereals. Inventories of maize harvesters increased by 110 per cent though the harvested area contracted by 6 per cent. In 1953-55 there were therefore 20 units of equipment per 1,000 hectares under maize instead of the 9 units available in the three-year period beginning in 1945.

Figure XX

ME FACTORS WHICH AFFECT OUTPUT PER VORKER AND LAND YIELDS IN SELECTED COUNTRIES

Natural scale



For Argentina, periods 1945-49 and 1950-54.

espite such an important advance, tractor availabilities *y capita* and per unit of area remained low in many untries. In Brazil, for example, there are barely 2 actors for every 1,000 cultivated hectares, 3.4 units in gentina and 6.8 in Mexico. The proportion rises to ractors in Chile and to 17 in Uruguay (see table 122 and ure XX). In the United States, at the high level of pital formation in agriculture there are 31 tractors per 000 hectares.

Tractor availabilities are also unsatisfactory in relation the agricultural labour force in many countries. In razil there are less than four tractors for every 1,000 rm workers; there are ten in Mexico, twenty-one in hile, twenty-four in Argentina and 120 in Uruguay. e number rises to 492 in the United States, which eans one tractor for every two farm workers.

Increased mechanization made it possible to expand the orking capacity of the agricultural worker, in terms of ltivated hectares, by about 3 per cent in Chile and exico, 20 per cent in Brazil and 31 per cent in Uruguay. he improvement in land yields, conversely, is rather disappointing. In Brazil there was no change. In Argentina and Chile, the increase was only 10 per cent and, in Mexico and Uruguay, somewhat less.

All these data seem to indicate that the use of machinery has played a key role in the rise of the output per worker in Latin America. But to stop there would be to underestimate another important factor, namely the technological improvements in chemistry and agrobiology which are of great importance for raising land yields. In many cases stress was laid on releasing agricultural labour or on expanding arable areas to increase production without considering, or giving only secondary importance to, the alternative of intensifying the use of land through the introduction of techniques such as fertilizing, sound farm management and genetic improvements.

III. LAND YIELDS

1. Scope of the problem

The production of the soil bears a close relationship to land use capacity and the techniques employed in farming. The latter, when they imply an optimum utilization of production factors and contribute to land conservation and improvement in the use of the land and other renewable resources, make it possible to obtain larger harvests. The technical development which has taken place in the last few decades has made available to farmers many methods which it would be interesting to apply on a large scale in Latin America because, apart from the prevention of the present deterioration of vast areas which are being farmed exhaustively and irrationally, they will improve land yields both from the point of view of quality and quantity.

Until now agricultural development in Latin America has relied on the classic method of expanding the crop area to the utmost. In many countries, however, readily accessible land is becoming scarce and therefore a more intensive and rational use of the soil may play an important part in the future development of their agriculture. In more highly developed countries, such as the United States, Canada and most European countries, the widespread use of modern techniques is one of the main causes of the recent increase in production and in the product per worker.

In Latin America, conversely, technology has been of secondary importance for agricultural development. Latin American countries have approached the problem of expanding the output of the labour force almost exclusively from the point of view of mechanization. In practice, the policy is limited to some extent by the shortage of capital for purchasing agricultural machinery and for the employment of the labour force displaced from agriculture in industry or other efficient sectors. Given the generally low level of economic development in Latin America, which has not created an additional demand for manpower outside agriculture, overmechanization, far from improving the average product per worker, in some cases may aggravate the concealed unemployment from which they all suffer in the agricultural sector. In some countries it may also cause unemployment in large urban centres.

Since most Latin American countries have an abundance of human resources and are lacking in capital, it is likely that a larger share of the latter could often be used more profitably in raising land yields. On the other hand, when farming operations are mechanized, the same equipment as is used in developed countries must be imported at a high relative cost. Such equipment has a much higher capital intensity per worker than the optimum for Latin America, given present capital-labour ratios.

All this holds particularly true for the countries with tropical agriculture where some crops like sugar-cane, cotton, coffee, bananas and maize, account for most of the cultivated area. All such crops require a large volume of labour, especially for the harvest, which largely accounts for the low product per worker. At present no mechanical equipment is available for coffee picking; it does exist for cotton, cane and maize, but the capital intensity of the units is too high under current conditions in Latin America. In these cases, the improvement in land yields can be the key factor in raising the low product-per-worker levels obtaining for the large labour force engaged in the production of these crops.

Hence high priority should be given to investment aimed at raising yields through the technical improvement of farming operations (use of improved seeds, fertilizers, pesticides, etc.) or at increasing the area under cultivation or improving soil conditions through erosion control, irrigation, drainage, etc.

This does not mean that mechanization precludes other aspects of technical improvement, or *vice versa*; on the contrary, both methods should be combined harmoniously in each country's agricultural development policy with a view to finding the solutions which give the greatest marginal productivity for the economy as a whole. But there is no doubt that technical, non-mechanical, aspects have not received the attention they merit, to judge by the limited funds spent on research, testing and extension of sound agricultural practices, the small staff engaged in these activities, and the restricted use of certain inputs such as fertilizers, pesticides, weed-killers, improved seed, etc. At the low technical level at present prevailing in most countries, the adoption of some simple practices would yield highly satisfactory results.[20] It would be possible to introduce many of these techniques without great difficulty and with very good results in a short period of time; yet some other types of technical improvements which have been successful in other countries would require prior local research and surveys.

While some technical improvements have obviously already been adopted by Latin American countries, it must be recognized that they have been on too small a scale, often limited to specific crops or small areas and sectors. Although their application has been highly successful, they have had little significance on a national level. Frequently crops which have but recently been introduced in the country, or the production of which rises rapidly from a low level, are farmed with some or all of the most progressive techniques in vogue in countries with a more developed agriculture and thereafter they expand rapidly. This is the case of wheat in Brazil and Mexico; cotton in the Central American countries and Mexico; rice in Venezuela and some areas of Brazil. Sometimes, techniques progress rapidly in traditional sectors, thanks to the stimuli provided by domestic or foreign demand or an exceptionally favourable price policy, as is the case of wheat in Uruguay, sugar-cane in Venezuela, Mexico and Peru, bananas in Ecuador and some Central American countries.

In any event, the widespread introduction of technical improvements in many countries is bringing into existence two kinds of agriculture: a modern agriculture, created relatively recently, usually under the direction of a new kind of farmer who is interested in all technical aspects and who will undoubtedly exert a favourable influence on the remaining agricultural branches, and a traditional agriculture, usually of greater numerical strength and importance and more reactionary.

These developments seem to arise from the lack of agricultural programming, in accordance with which means and conditions are provided for reaching any targets which may be set. Technological backwardness results in the progressive decline of yields for the staple crops of several countries, a trend which has more serious repercussions for export products. Thus, countries outside the area, with more limited natural resources at their disposal, have a sound competitive position in international markets thanks to the forceful development of their technology. Great strides in this direction have been made only in some crops and countries of Latin America, but they prove what could be done if sounder farming practices were in wider use.

2. LAND YIELDS AND THEIR EFFECT ON OUTPUT PER WORKER

When the output per worker was computed in terms of wheat units,[21] marked differences were noted among Latin American countries and between them and the United States and Canada. It is now advisable to examine how land yields affect the product per worker. For this purpose, the crop yields must be determined[22] for the same eight countries and following the same method as was used to calculate the product per worker, i.e., on the basis of wheat units.

The analysis shows that there is no relationship between the product per worker and the yield of the land under crops (see table 123). Thus, for instance, Uruguay, with one of the highest levels of product per worker in Latin America, shows one of the lowest yields per hectare. Argentina, which is also favourably placed with respect to manpower, has a similar level of yields as Brazil, the United States and Canada, the first with a lower product per worker and the last two with a higher level. Countries like Colombia, Chile and Peru, which do not use their manpower very efficiently, obtain high yields per hectare,

---

[20] For example, recent surveys in Argentina show that adequate control of insects, weeds and cattle diseases will alone raise agricultural production by 20 per cent over the present level.

[21] See section II, 2(b), of this study.

[22] The inclusion of livestock is difficult and of little significance. In fact, it is no easy matter to calculate, with the accuracy required for this study, the area used for livestock in the different countries. In addition, the land under pasture varies considerably and has different yields even in one and the same country.

le 123. Production of crops per unit of land

(Three-year averages in terms of wheat units) [a]

Country	Area under crops (1,000 hectares)	Yields per hectare (wheat unit)
ntina [b]	13,618	150
il	20,466	160
	1,458	185
	1,336	220
co	8,832	130
zuela	994	90
uay	1,409	95
mbia	2,793	210
ed States [c]	107,066	175
da	19,878	130

urce: ECLA, on the basis of official data on areas and uction.

For the same years shown in table 111.

Excluding forage crops.

Harvested area.

her even than in the United States and Canada. It s appears that a correlation cannot be based on such a eral analysis, because the variations with respect to composition of crop production in the countries under ew may distort the result.

n order to eliminate these disadvantages, the crops of h country were divided into two large groups, namely, eals and non-cereals.[23] The classification is based on fact that in some countries cereals occupy a major t of the cultivated area. In addition, they are usually ensively farmed, with lower relative yields per hectare, can be totally or partially mechanized. At present our inputs per hectare can be cut by using highly cient and simple equipment. These crops have low duction intensity per hectare but, given small labour uirements, a high level of product per worker can be ained.

Conversely, non-cereal crops are characterized by her production intensity per hectare but they require a ge amount of labour. Mechanization has been introced on a more limited scale; existing equipment is tly and difficult to run, so that it may prove uneconomic[24] at the present wage levels. In other cases, the uipment used in countries with a more developed agritural sector have not been adapted successfully to the cial working conditions found in Latin America and, ally, for some crops and operations—for example coffee king—no machines have yet been developed to replace save human effort. Labour requirements may be so h that the product per worker will decline in spite of ater production per hectare. In many Latin American ntries these crops, i.e., sugar-cane, coffee, cotton, etables and fruit, are of vital importance. In Brazil, ru, Venezuela and Colombia they account for 50 to 70 cent of sowings and from 70 to 85 per cent of the ume of agricultural production (see table 124).

Table 124. Area sown to cereals and other crops; percentage of total tilled area and relative weight of the production of each group

Country	Area (thousands of hectares)	Percentage share in:		Yields per hectare (wheat units)
		Total tilled area	Total production	
	Cereals [a]			
Argentina	10,512 [b]	77	58	112
Brazil	8,832	43	24	86
Chile	1,021	70	46	122
Peru	697	51	21	109
Mexico	6,470	73	32	56
Venezuela	321	34	30	78
Colombia	1,099	39	16	84
Uruguay	1,031 [b]	73	73	91
Canada	19,079	96	92	127
United States	83,691 [b]	78	54	122
	Other crops			
Argentina	3,106 [b]	23	42	280
Brazil	11,614	57	76	213
Chile	437	30	54	336
Peru [c]	705	49	79	443
Mexico	2,362	27	68	329
Venezuela	623	66	70	94
Colombia	1,694	61	84	291
Uruguay	378 [b]	27	27	98
Canada [d]	799	4	8	253
United States	23,375 [b]	22	46	374

Source: ECLA, on the basis of official statistics.

[a] Comprises wheat, maize, oats, barley, rye, canary-seed and rice.

[b] In terms of harvested area

[c] Excluding vegetables.

[d] Fruit was excluded because the corresponding area is unknown.

The breakdown of land yields by cereals and other crops shows, first, that there is an enormous gap between the production per hectare of them. While cereal yields range from 60 to 130 wheat units per hectare, according to country, yields of other crops, if Uruguay and Venezuela are excluded, vary from 200 to 450 units.

Another fact to be derived from table 124 is that cereals —in terms of area and share in the total volume of production—are highly important for some countries. Canada and the United States belong to this group of cereal-growing countries; in 1952-54 cereals accounted for 96 and 78 per cent respectively of the harvested area and they contributed 95 and 54 per cent of total agricultural production. Argentina, Chile and Uruguay are also in this category since the area under cereals equals 70 per cent or more of the land under tillage and these crops account for 50 per cent or more of agricultural production.[25] It should be noted that these are precisely the countries which obtain the highest product per worker in Latin America (see again table 5). Mexico, which grows cereals on more than 70 per cent of its arable land, could also be regarded as a cereal producer. Yet low maize and, to a less extent, wheat yields give a very small product per unit of area and therefore such crops contribute only 30 per cent to agricultural production.

Non-cereal crops will also be called "other crops".

For example cotton pickers and cane cutters.

[25] In terms of wheat units.

Table 125. Average yields of land sown to cereals[a]

(In wheat units per hectare)

Country	*Maize*		*Rice*		*Wheat, oats, barley, rye, millet, sorghum and canary-seed*	
	(Thousands of hectares)	*Yields*	*(Thousands of hectares)*	*Yields*	*(Thousands of hectares)*	*Yields*
Argentina[b]	2,211	95	60	259	8,241	116
Brazil	5,400	72	2,330	116	1,102	92
Chile	51	100	30	234	940	120
Peru	229	82	65	328	404	88
Mexico	5,635	48	93	144	742	107
Venezuela	269	75	47	97	6	64
Colombia	700	69	171	135	228	95
Uruguay	264	46	16	306	751	102
Canada	151	212	—	—	18,928	126
United States[b]	32,923	146	895	223	49,873	104

Source: ECLA, on the basis of official statistics.

[a] Calculations are for the same years as indicated in table 111.

[b] Harvested area.

(a) *Land under cereals*

Cereals comprise a rather wide range of crops, which require not only different environmental conditions but also varying methods of cultivation. Thus great differences are observed in labour inputs and the product per worker. For this reason, land yields for cereals were broken down into three groups: maize, rice and "other grains" comprising wheat, oats, barley and rye (see table 125). The yield of the land under cereals which are farmed extensively[26] in the Latin American countries where such crops are of real significance—Argentina, Chile, Mexico and Uruguay—is quite similar to that obtained in the United States and Canada.

Such yields, however, are much lower in countries like Colombia, Peru, Venezuela, and, to a less extent, Brazil. In Venezuela the fact is not important, because the area under such cereals is small and decreasing as the country does not have suitable soils and climate for large-scale production.

In Peru, in contrast, the low yields per hectare are highly significant, since cereals account for about 30 per cent of the crop area and the broken topography of the sierra—where wheat and barley are usually grown—makes it difficult to mechanize operations. Therefore low land yields result in a low product per worker, which is the main characteristic of farming in this area.

Neither Colombia nor Brazil have suitable ecological conditions for these cereals and, consequently, land yields are not very satisfactory. But such crops are relatively unimportant in these countries.

They are very significant in Canada and the United States. In the former, they cover 95 per cent of the crop area. Such specialized farming has made it possible to use the land very efficiently and to obtain the highest yields per hectare of all the countries listed in table 125. Cereals also have a prominent place in United States agriculture, since about 50 million hectares are harvested, though yields are not very high.

In those Latin American republics where such cereal play a truly significant role, land yields are equal to thos registered in Canada and higher than in the United States which does not mean that they are at a satisfactory level there is ample scope for improvement through a wider us of improved techniques.

The topography permitting, tilling, sowing and harvesting operations for wheat and other grains can b mechanized. In the main cereal producers—Argentina Brazil, Chile and Uruguay—the use of machinery is quit widespread, and these are perhaps the sectors of Lati American agriculture which use manpower most efficiently. In Argentina and Uruguay practically no natura limitations inhibit the use of machinery and sowing harvesting and threshing operations are totally mechanized; neither are there difficulties in Brazil, particularly i the prairies of the States of Rio Grande do Sul and Sant Catarina, where most of the wheat expansion in recen years has taken place and where this crop will continue t develop in future. In Chile, some difficulty is found o sloping land areas, and in Peru such difficulties are du not only to the unfavourable lie of the land but also to th lack of roads and to the very small size of farm holding

All these facts lead to the conclusion that the productivity of the land is not the main factor which determine the low product per worker in wheat, oats, barley and ry farming among the Latin American countries. Maize is i an entirely different position. Latin American yields ar extremely low in comparison with those of other region This is more evident in countries like Argentina, Brazi Colombia, Mexico and Uruguay where the crop covers major part of the total tillage. For example, in Mexic and Uruguay, where maize accounts for 65 and 20 per cen of the crop area, yields per hectare are half as high as i Argentina and Chile and only a third as large as in th United States. In Brazil and Colombia one quarter the crop area is under maize and yields are 60 to 70 p cent as high as in Argentina and Chile, while they on reach 50 per cent of the level registered in the Unite States and one third of that in Canada.

Apart from the low returns of land under maize in Lat

---

[26] Wheat, oats, barley, rye and canary-seed.

e 126. Land under cereals as a percentage of the total area under tillage[a]

Country	Maize	Rice	Other cereals [b]	Output per worker (wheat unit)
tina	16	1	61	2,205
l	26	11	5	450
. . . .	3	2	65	770
. . . .	17	5	30	250
o	64	1	8	290
uela	28	5	1	255
nbia	25	6	8	450
uay	19	1	54	2,760
d States	31	1	47	4,220

urce: ECLA, on the basis of official statistics.
'or the period covered by the calculations, see table 111.
Vheat, oats, barley, rye, canary-seed, sorghum, millet.

rica the crop is usually farmed at a subsistence level ve in Argentina—and almost all operations, even ghing and harrowing, are carried out manually by l farmers who are found in the most diverse areas and graphical conditions. All this seriously impedes tech- l improvement and mechanization. In addition, in Latin American countries no satisfactory equipment been developed to mechanize the harvest, which is the ation with the highest labour input. The equipment in other countries is costly and cannot be adapted iently to the Latin American milieu.[27] Argentina e, and in recent years only, has been able to produce to start to employ harvesting equipment with some sure of success and about 10 per cent of maize sowings now harvested mechanically.

nder these conditions, the output of maize per worker atin America is very low and the fact is highly signi- nt in view of the large area under this grain.[28] Coun- like Brazil, Colombia, Mexico and Venezuela, which maize on 25 per cent or more of the tillage, are, at the same time, those which obtain the lowest product per worker (see table 126).

Rice farming shows characteristics similar to those of maize, but the former is not as important as the latter for Latin America. Among the countries listed in tables 125 and 126, only Brazil and in smaller measure Colombia and Uruguay are important rice producers, and it is these very countries that obtain the lowest yields per hectare. Brazilian yields are only half of those obtained in Argentina, Chile and the United States and about one third of those registered in Peru and Uruguay. Such low levels are due to the fact that rice is usually grown on dry-farming areas[29] and the lack of irrigation reduces land yields and involves heavy risks and large fluctuations for this crop. In Venezuela, where it is farmed under the same conditions, the land yields are also unsatisfactory. The highest yields are obtained in Argentina, Chile and Peru, although the rice area is limited, because irrigation and sound farming practices are employed.

To sum up, it is therefore reasonable to assume that low maize and rice yields are a direct cause of the low product per worker and that any progress shown by the former as a result of technical improvement will be reflected directly in the latter.

In regard to other cereals—wheat, barley, oats, rye, etc.—land yields do not have such marked repercussions since they do not compare unfavourably with those of other countries, though there is still room for some improvement.

(b) *Land under other crops*

If the three cereal-growing countries—Argentina, Chile and Uruguay—are excluded, agriculture is much more diversified in the remaining countries and other crops occupy a major part of the land and contribute to the bulk of agricultural produce. Coffee, cotton, sugar-cane, tubers and beans are particularly important. Thus, over 45 per cent of the tillage is grown with these crops in Brazil, Colombia, Peru and Venezuela, while the proportion amounts to 20 per cent in Mexico and Ecuador (see table 127).

The uneven ripening of the grain, the humidity at harvest and the spacing of the crop are, *inter alia*, some of the tech- problems to be solved before mechanical harvesters can be Many difficulties arise from the use of common strains a high degree of spontaneous cross-breeding.
Maize is the crop which covers the largest area in Latin rica. In recent years it has been grown on about 15 million res annually.

[29] Wheat was grown with irrigation only in the States of Rio Grande do Sul (250,000 hectares) and São Paulo (50,000 hectares).

Table 127. Land under some of the main non-cereal crops as a percentage of total area under tillage

Country	Coffee	Cotton	Sugar-cane	Tubers [a]	Beans	Total	Percentage of total area under crops
	(Thousands of hectares)						
Argentina	—	541	281	265	31	1,118	8.2
Brazil	3,030	2,488	1,017	1,366	2,133	10 024	49.0
Chile		—	—	56	78	134	9.2
Peru	14	201	73	270	41	599	44.8
Mexico	209	890	242	32	144	1,517	17.2
Venezuela	339	17	80	87	85	608	64.0
Colombia	831	67	139	198	85	1,320	47.2
Uruguay	—	—		28	6	34	2.4
Ecuador	107	—	50	37	22	216	18.0
United States	—	9,366	146	722	572	10,806	10.1
Canada	—	—	—	126	27	153	0.8

Source: Official national data.
[a] Yams, potatoes and manioc.

Production per hectare, in terms of wheat units, is higher than that obtained for cereals (see table 128). A country-by-country analysis will show that, in comparison with other countries, Argentina uses its land less efficiently for the production of cotton, sugar-cane and tubers. Peru's cotton yields are higher by 100 per cent, Mexico's by 80 per cent and the United States' by 50 per cent. Argentine sugar-cane yields are also much lower than those of Peru and Mexico. The explanation is partly that Argentina does not provide suitable ecological conditions for some of these crops, especially cotton and sugar-cane, and this important drawback is further aggravated by the difficulty in mechanizing the most labour-intensive operations particularly harvesting. The small product per worker obtained for these crops is in contrast with the high level registered in the production of cereals, oil-seeds and livestock. As was established earlier in this study, these facts largely determine various levels of the efficiency of agricultural labour in Argentina.

Table 128. Productivity per hectare for selected crops

(Wheat units)

Country	*Coffee*	*Cotton* [a]	*Sugar* [b]	*Tubers*	*National average*
Argentina	—	200	230	240	150
Brazil	195	140	180	300	160
Chile	—	—	—	410	185
Peru	350	430	970	185	220
Mexico	210	360	345	145	130
Venezuela	95	260	120	105	90
Colombia	290	240	115	210	95
Uruguay	—	—	—	120	210
United States	—	300	180	450	175
Canada	—	—	—	390	130

Source: ECLA, on the basis of official statistics.

[a] Including seed and fibre.

[b] The yields refer to sugar production per hectare.

Brazilian yields are substantially lower. Although cotton plays a key role in the country's agriculture and economy, the lowest yields per hectare of all the countries shown in table 128 were registered in this sector.[30] The output of one hectare under cotton in Brazil is equivalent to that of 0.2 hectares in Peru, 0.4 in Mexico and 0.5 in the United States and Venezuela. The situation is equally unfavourable with respect to sugar-cane, particularly in comparison with Peru and Mexico. This is also quite an important crop for the economy and it occupies over 1 million hectares or 5 per cent of the arable area.

Coffee yields likewise stand at a slightly lower level in Brazil than in Colombia, Mexico and Peru. Conversely, the area under tubers (1.4 million hectares) shows a reasonably satisfactory standard of production. If to all this is added the fact that land yields for maize and other grains are also low—as was seen when the cereal group was analysed—the conclusion arises that land yields are the main determinant of the small product per worke obtained in Brazil. This conclusion stands in contrast t the fact that yields per hectare have shown no improve ment during the last decade.

Chile grows no coffee, cotton or sugar-cane, so th analysis of land yields is limited to tubers (potatoes) an some cereals (maize, wheat, oats, barley and rye). Yielc of these crops are the highest for the Latin America countries covered in this analysis. Wheat, oats, barle and rye yields are even higher than in the United State It is likely, therefore, that in Chile land yields are not th primary factor limiting the efficiency of manpower.

In Peru, farming in the coastal and mountain are displays different characteristics. The yield of the lan under sugar-cane and cotton—staple crops of the coast area—rises far above that registered in the remainin countries under review. This is partly attributable t the favourable ecological conditions which these crops fin on the Peruvian coast, but it is mainly a result of the hig technical level attained, as measured by the widesprea use of fertilizers, efficient plague and disease control, di fusion of improved seed, expansion and improvement irrigation, etc. The contrary is true for the tubers, mai and cereals grown in the sierra, where land yields a among the lowest in Latin America, not only on accou of natural disadvantages, but mainly because there h been virtually no technical progress. The weight of th high yields obtained in the coastal area within the countr total gives Peru one of the highest outputs per hectare the countries listed in the table. Yet the product p worker is one of the lowest in Latin America, as a result high labour inputs per unit of area. In the mounta areas this is due to the fact that the low level of lar yields combines with a large labour input because of th lack of machinery, the slope of the country, the sma areas farmed per worker and the use of very primiti techniques and practices. Although techniques ha progressed considerably in the coastal area, it has bee impossible to mechanize some operations which requi a large number of workers—cotton picking and cane cu ting—while the characteristic feature of farming in th area is the exceptionally large labour force employed.

Two distinct sectors are apparent in Mexico too: one traditional, with a low level of productivity, largely d pendent on the meagre or irregular rainfall, general devoted to the growing of maize and beans; the oth enjoys the advantages of modern farming methods and generally situated in areas where the benefits of the rece irrigation schemes are available. It is in the latter are that the use of advanced farming techniques are rath widespread and where the rapid expansion of cotto wheat, sugar-cane, rice and tomato production originate

Cotton yields in Mexico are 20 per cent higher than the United States and all other countries covered in t analysis with the sole exception of Peru. Sugar-car wheat and rice yields have also attained fairly high leve Conversely, maize, which is the staple crop of the trac tional agricultural area and which in the last three yea covered an average 5.4 million hectares annually (mo than 60 per cent of the harvested area), registered t lowest yields in Latin America; they are half as high as Chile and a third as large as in the United States. T nous importance of traditional agriculture and an vourable climate have lowered average yields, with ect effect on the product per worker.

---

[30] In the last three years, the area under cotton was about 2.5 million hectares, which accounts for 12 per cent of the crop area. Cotton ranks second only to coffee and maize as to tillage.

e low product per agricultural worker in Venezuela is directly linked to small land yields. The stimulus ided in recent years for certain branches of agricul- production has given rise to the establishment small modern agricultural sector, where cotton, r-cane, sesame and rice are given preference over r crops. The yields of the first two are at an inter- ate level due to the widespread use of modern tech- es, while coffee and tubers, which are grown in the itional sector, show the lowest yields of all the tries under review.

Uruguay, average yields for all crops are low. Only at has progressed in recent years to relatively high ls. Yields are unsatisfactory for maize and tubers. he first case, they are half of what is obtained in Chile Argentina, a third with respect to the United States and a fifth in comparison with Canada.

Despite such low land yields, Uruguay is the country which uses its labour force efficiently, thanks to the widespread use of machinery. It is also the Latin American country with the largest number of tractors and threshers per unit of crop and cereal area respectively. In addition, the product per worker refers to workers employed in the highly efficient agricultural and livestock sector.

An analysis of non-cereal crops once again confirms the importance of raising the present levels of output per worker and land yields for Latin American agriculture.

Many years will elapse before machinery can be used more intensively for the cotton and cane harvests and before mechanical equipment can be developed for coffee picking. Although it is true that many operations could now be handled by equipment, there can be no doubt that the best possibility of raising the product per worker of the large labour force engaged in the production of these crops lies in obtaining a larger output per unit of land.

SALES AGENTS FOR UNITED NATIONS PUBLICATIONS

ARGENTINA
Editorial Sudamericana, S.A., Calle Alsina 500, Buenos Aires.

AUSTRALIA
H.A. Goddard Pty., Ltd., 255a George Street, Sydney, N.S.W.; 90 Queen St., Melbourne, Victoria.
Melbourne University Press, Carlton N.3, Victoria.

AUSTRIA
Gerold & Co., Graben 31, Wien I
B. Wüllerstorff, Book Import and Subscription Agency, Markus Sittikusstrasse 10, Salzburg.

BELGIUM
Agence et Messageries de la Presse, S.A., 14-22 rue du Persil, Brussels.
W. H. Smith & Son, 71-75 bd Adolphe-Max. Brussels.

BOLIVIA
Libraria Selecciones, Empresa Editora " La Razón ", Casilla 972. La Paz.

BRAZIL
Livraria Agir, Rua Mexico 98-B, Caixa Postal 3291, Rio de Janeiro, D.F.; and at São Paulo and Belo Horizonte.

CAMBODIA
Papeterie-Librairie nouvelle Albert Portail, 14 av. Boulloche, Pnom-Penh.

CANADA
The Ryerson Press, 299 Queen Street West, Toronto, Ontario.

CEYLON
The Associated Newspapers of Ceylon, Ltd., Lake House. P.O. Box 244. Colombo

CHILE
Librería Ivens, Casilla 205. Santiago. Editorial del Pacífico, Ahumada 57, Santiago.

CHINA
The World Book Co., Ltd., 99 Chung King Road, 1st Section, Taipeh, Taiwan.
The Commercial Press, Ltd., 211 Honan Rd., Shanghai.

COLOMBIA
Librería América, Sr. Jaime Navarro R., 49-58 Calle 51, Medellín.
Librería Buchholz Galería, Av. Jiménez de Quesada 8-40, Bogotá.
Librería Nacional, Ltda., 20 de Julio, San Juan Jesús, Barranquilla.

COSTA RICA
Trejos Hermanos, Apartado 1313, San José.

CUBA
La Casa Belga, René de Smedt, O'Reilly 455, Havana.

CZECHOSLOVAKIA
Ceskoslovensky Spisovatel, Národní Trida 9, Prague I.

DENMARK
Messrs. Einar Munksgaard, Ltd., Nørregade 6, Copenhagen.

DOMINICAN REPUBLIC
Librería Dominicana, Calle Mercedes 49, Apartado 656, Ciudad Trujillo.

ECUADOR
Librería Científica Bruno Moritz, Casilla 362, Guayaquil; and at Quito.

EGYPT
Librairie " La Renaissance d'Egypte ", 9 Sharia Adly Pasha, Cairo.

EL SALVADOR
Manuel Navas y Cía, " La Casa del Libro Barato ", 1ª Avenida Sur 37, San Salvador.

FINLAND
Akateeminen Kirjakauppa, 2 Keskuskatu, Helsinki.

FRANCE
Editions A. Pedone, 13 rue Soufflot, Paris, Vᵉ.

GERMANY
R. Eisenschmidt, Kaiserstrasse 49, Frankfurt/Main.
Buchhandlung Elwert & Meurer, Hauptstrasse 101, Berlin-Schöneberg.
Alexander Horn, Spiegelgasse 9. Wiesbaden.
W.E. Saarbach, G.m.b.H., Ausland-Zeitungshandel, Gertrudenstrasse 36, Cologne 1.

GREECE
Kauffmann Bookshop, 28 Stadion Street. Athens.

GUATEMALA
Sociedad Económica Financiera, Edf. Briz. Do. 207, 6a Av. 14-33, Zona 1, Guatemala City.

HAITI
Max Bouchereau, Librairie " A la Caravelle ", Boîte postale 111-B, Port-au-Prince.

HONDURAS
Librería Panamericana, Calle de la Fuente, Tegucigalpa.

HONG KONG
Swindon Book Co., 25 Nathan Road, Kowloon.

ICELAND
Bokaverzlun Sigfusar Eymundsonnar, Austurstreti 18, Reykjavik.

INDIA
Orient Longmans, Calcutta, Bombay, Madras and New Delhi.
Oxford Book & Stationery Company, Scindia House, New Delhi, and at Calcutta.
P. Varadachary & Co., 8 Linghi Chetty Street, Madras I.

INDONESIA
Jajasan Pembangunan, Gunung Sahari 84, Djakarta.

IRAN
" Guity ", 482 av. Ferdowsi, Teheran.

IRAQ
Mackenzie's Bookshop, Booksellers and Stationers, Baghdad.

ISRAEL
Blumstein's Bookstores, Ltd., 35 Allenby Road, P.O.B. 4154, Tel Aviv.

ITALY
Libreria Commissionaria Sansoni, Via Gino Capponi 26, Florence.

JAPAN
Maruzen Co., Ltd., 6 Tori-Nichome, Nihonbashi, P.O.B. 605, Tokyo Central.

JORDAN
Joseph & Bahous & Company, Dar-Ul-Kutub, P.O. Box 66, Amman.

LEBANON
Librairie Universelle, Beirut.

LIBERIA
Mr. Jacob Momolu Kamara, Gurly and Front Streets, Monrovia.

LUXEMBOURG
Librairie J. Schummer, Place Guillaume, Luxembourg.

MEXICO
Editorial Hermes, S.A., Ignacio Mariscal 41, Mexico, D.F.

NETHERLANDS
N. V. Martinus Nijhoff, Lange Voorhout 9, The Hague.

NEW ZEALAND
The United Nations Association of New Zealand, G.P.O. 1011, Wellington.

NORWAY
Johan Grundt Tanum Forlag, Kr. Augustsgt. 7a, Oslo.

PAKISTAN
Thomas & Thomas, Fort Mansion, Frere Road, Karachi.
Publishers United, Ltd., 176 Anarkali, Lahore.
The Pakistan Co-operative Book Society, 150 Govt. New Market, Azimpura, Dacca, East Pakistan, and at Chittagong.

PANAMA
José Menéndez, Agencia Internacional de Publicaciones, Plaza de Arango, Panamá.

PARAGUAY
Agencia de Librerías de Salvador Nizza. Calle Pte. Franco 39-43, Asunción.

PERU
Librería Internacional del Peru, S.A., Casilla 1417, Lima; and at Arequipa.

PHILIPPINES
Alemar's Book Store, 749 Rizal Avenue, Manila.

PORTUGAL
Livraria Rodrigues, Rua Auréa 186-188, Lisbon.

SINGAPORE
The City Bookstore, Ltd., Winchester House, Collyer Quay, Singapore.

SPAIN
Librería José Bosch, Ronda Universidad 11, Barcelona.
Librería Mundi-Prensa, Lagasca 38, Madrid.

SWEDEN
C. E. Fritze's Kungl. Hovbokhandel, Fredsgatan 2, Stockholm 16.

SWITZERLAND
Librairie Payot, S.A., 1 rue de Bourg, Lausanne; and at Basle, Berne, Geneva. Montreux, Neuchatel, Vevey, Zurich.
Librairie Hans Raunhardt, Kirchgasse 17, Zurich 1.

SYRIA
Librairie universelle, Damascus.

THAILAND
Pramuan Mit, Ltd., 55. 57, 59 Chakrawat Road, Wat Tuk, Bangkok.

TURKEY
Librairie Hachette, 469 Istiklal Caddesi, Beyoglu-Istanbul.

UNION OF SOUTH AFRICA
Van Schaik's Bookstore (Pty.), P.O. Box 724, Pretoria.

UNITED KINGDOM
H.M. Stationery Office, P.O. Box 569, London S.E.1; and at H.M.S.O. Shops in London, Belfast, Birmingham, Bristol, Cardiff, Edinburgh and Manchester.

UNITED STATES OF AMERICA
International Documents Service, Columbia University Press, 2960 Broadway, New York 27, N.Y.

URUGUAY
Oficina de Representación de Editoriales, Prof. Héctor d'Elia, 18 de Julio 1333, Palacio Díaz, Montevideo.

VENEZUELA
Libreria del Este, Av. Miranda 52, Edf. Galipan, Caracas.

VIETNAM
Librairie Albert Portail, 185-193 rue Catinat, Saigon.

YUGOSLAVIA
Drzavno Preduzece, Jugoslovanska Knjiga, Terazije 27/II, Belgrade.
Cankars Endowment (Cankarjéva Zalozba), Liubljana (Slovenia).

XII. 56

Orders from countries where sales agents have not yet been appointed may be sent to

Sales Section, European Office of the United Nations,
Palais des Nations, GENEVA, Switzerland

or

Sales and Circulation Section, United Nations,
NEW YORK, U.S.A.

Printed in the Netherlands
25243 - January 1958 - 3,800

Price: 2.50 $ U.S.; 18/- stg.; Sw. fr. 10.50
(or equivalent in other currencies)

United Nations publication
Sales No.: 1957.II.G.1
E/CN.12/427/Rev. 1